Oil, Paint and Drug Reporter

EMBRACING THE DRUG, PAINT AND OIL TRADE, NEW YORK DRUG BULLETIN, NEW YORK DRUGGISTS' PRICE CURRENT, SOAP-MAKERS' JOURNAL, OIL AND PAINT REVIEW, and WEEKLY DRUG NEWS.

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MONDAY, MARCH 28, 1892.

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WEEKLY REVIEW.

The money market is somewhat easier. The rate of money on call ranges from 1½@2, the average for the week being about 2, at which renewals were made. The demand for time money has improved, and the feeling is somewhat firmer. The rates are 3 per cent. for thirty to sixty days, 3½@4 per cent. for ninety days, and 4@4½ for four to eight months, on good Stock Exchange collateral.

Commercial paper is in fair demand, with a firm market. We quote sixty to ninety days indorsed bills receivable at 4 per cent., first-class four months commission house names at 4½@5 ℘ cent, and good single names (jobbers having four to six months to run) at 5@6 ℘ cent. Following are the rates of exchange on New York: Savannah buying par; selling ⅛ premium; Charleston, buying par, and selling at ⅛ premium. New Orleans commercial, 50c premium; bank, $1.50 per $1,000 premium; St. Louis, par to 25c premium; Chicago, 60@70c per $1,000 discount. Sterling exchange has been dull but steady.

Sterling, 60 days, nominal	4 87	@
sight, nominal	4 89	@
60 days, actual	4 86	@4 86¼
sight, actual	4 88	@4 88¼
Cable transfers	4 88¼	@4 88½
Commercial, 60 days	4 85¼	@4 85½
Documentry, 60 days	4 85	@4 85¼
Paris, cable transfers	5 16¼	@5 15½
60 days	5 18¾	@5 18¼
sight	5 16¾	@5 16¼
com. 60 days	5 20⅛	@5 20
com sight	5 18⅛	@5 17⅝
Antwerp, 60 days	5 21¼	@5 20⅝
Brussels, bankers' sight	5 17⅛	@5 16⅞
Swiss, 60 days	5 20	@5 19⅞
sight	5 18⅛	@5 17⅛
Reichmarks (4) 60 days	95¾	@ 95¾
(4) sight	96⅛	@ 95¾
(4) nom., 60 days	94¾	@ 95
(4) com. sight	96¾	@ 95¾
60 days	40⅛	@40 3-16
sight	40 5-16	@40⅜
com., 60 days	39 15-16	@40
com., sight	40⅛	@40 3-16
Kroners 60 days	26¾	@26 13-16
sight	27	@27 1-16
Lisbon, sight, per milreis	86¼	@87¼

CONDITION OF THE DRUG TRADE.

Although business in crude drugs generally has been very satisfactory since the beginning of the year, there has been a good deal of complaint regarding the low range of prices and the constant depreciation of the market value of many of the staples. This is attributed to several causes, chief among which is the practice indulged in by some houses, that have specialties of their own, to use the staples as leaders to attract trade. This practice, although confined to jobbing and manufacturing houses, has nevertheless had a depressing influence upon market prices in general. Another reason, it is claimed, why the jobbing business does not return more satisfactory profits, is to be found in free cartage and free boxing. Those who are opposed to the method assert that while it makes small orders more numerous, it increases the expense of business, not alone through the direct outlay which it represents, but also by the increase necessitated in the force of clerks and other employes.

Despite these drawbacks, however, conditions for which there appears to be no practicable remedy, the outlook for business this year is held to be extremely good. Stocks in distributors' hands are low owing to the hand-to-mouth policy they have pursued in purchasing, and this, together with the generally prosperous condition of the country, the South excepted, encourages the belief that there will be a large demand for goods during the spring and summer months.

IMPROVED POSITION OF FERTILIZER CHEMICALS.

The recent depression in the market for fertilizer materials has been dissipated, and a much better feeling is apparent than was thought to be possible a few weeks ago. In spite of the fact that the fish catch last year was very small, and that as a result of the high price of corn the killing of hogs has been much below the average, thus materially reducing the production of animal ammoniates, the light demand during the early part of the year had a depressing effect upon market values. A month ago prices for the ammoniates were down to the lowest figures touched within the past two years. Since then the Northern and Western business has been making such a good showing, that notwithstanding the decreased demand from the South there has been a marked improvement in the tone of the market, and an advance of about ten to fifteen per cent. in prices.

Southern business in chemical fertilizing materials was somewhat better than was expected in view of the extreme financial depression in that section. The trade for the crude chemicals in that part of the country is about over for the season, but the demand for the finished product is still going on and it cannot be yet definately determined how great the shrinkage of consumption will be. It is estimated, however, that the business will show a falling off of about twenty-five per cent., or, roughly calculated, two hundred thousand tons of commercial fertilizers. In the North and West the consuming demand is above the average, the large crops last year encouraging the farmers to be more liberal in their purchases of fertilizers. The outlook, consequently, so far as the ammoniates are concerned, is that prices will continue to rule firm and there is a prospect of a still further advance, as, for the reasons above stated, the supply is not excessive.

FUTURES IN CONGRESS.

The legislators at Washington, in their virtuous endeavor to put a quietus on speculative trading on the exchanges, or as they like to designate it, "speculative gambling," have become wofully befogged over the terms used by brokers to designate the several grades of speculative operations. They have got futures and options into their wise noddles as synonymous terms, and "short" and "long" appear to be incomprehensible to many. There is little cause for wonder, therefore, that a bill, popularly known as the Option Bill, should be ambiguous and likely to do more harm than good to the legitimate trade interests of the country should it become a law in the form in which it was presented. Trading in futures, or purchasing goods of any description, is certainly as legetimate as purchasing for prompt delivery. Should the bill pass in its original form it would become a nice question for the courts to decide what constitutes a "future" transaction. A strict construction of the law would prohibit a purchase to-day for delivery of goods next week, and it will readily be seen that such a law would cause much mischief. The sale of an article for delivery at a future period, whether the same be in the possession, or is owned by, the seller at the time of such sale or not, is perfectly legitmate, and is entirely distinct from the speculative option sales, which are the ones aimed at by the originators of the bill. The bill is ostensibly drawn in favor of the grangers interest, but it overshoots the mark. It is to be hoped that the bill will be reconstructed and that the argument recently submitted by the representatives from the commercial exchanges will tend to enlighten our representatives on the difference between legitimate trading and speculative trading in options, as "puts," "calls," "straddles," etc.

ANISE AND CELERY SEED.

Considerable interest has been shown in these two articles of late, and their present position seems to warrant a word of comment. To say that the prices on both articles have advanced would be merely to reiterate what has already been stated in our market report. It may, however, be interesting to look more closely into the matter and determine, as nearly as possible, the reasons for this advance, and at the same time consider what effect they may be expected to have upon the future of the market.

There is a very short spot supply of anise and very little, if any, offering from abroad. Furthermore, anise is not harvested until the middle of July, and the new crops therefore cannot arrive here before the middle of August, or the early part of September. The present supply in this market is claimed to be scarcely sufficient to last until that time. The time was when so much stock was carried over from the previous year that it mattered little when the new crop came in. Now, however, this market is likely, before August, to become more interesting than it is at present. The supply here is short and that abroad about exhausted, while the demand is steady and regular. Anise is not an article which fluctuates to a marked degree in that respect. Therefore, taking into consideration the shortage in supply, the length of time before the new crops can be expected to arrive, and the fact that there is every reason to expect the demand to continue steady, it seems reasonable to look for higher prices, or certainly a firm market at the present high prices.

As for celery seed, the position is much the same as anise, but more interesting in some respects. The supply here is small, and abroad it is reported exhausted. The new crop will not be harvested until August, and that will make it about the middle of September before it arrives here. Now, unlike anise, celery seed does not enjoy a steady demand throughout the year, the principal consumption being during summer, and as the new crop will not be available until September, the usual seasonable demand will have subsided before it arrives. Thus, it will be necessary to rely upon the stocks now on hand to meet the consumptive requirements of the summer months, and as they are reported far from adequate for the purpose, an advance in price seems to be inevitable. Moreover, the consumption of celery seed is not effected by the price, and even should last year's high price of seventeen cents again be reached, the sale of the article would not be restricted thereby.

NITRATE OF SODA IN A BETTER POSITION.

While the visible supply of nitrate of soda is larger than it was at the corresponding period a year ago, the consumption has been steadily increasing of late and it is now thought that the stock in sight will not be more than enough to cover the requirements of consumption. Consequently a much firmer feeling has been developed and the outlook for the next sixty days, at least, is favorable for advancing prices.

After that date, however, there is a prospect that we shall see a reaction. Freight rates on the West Coast are down to about eighteen shillings, a lower point than they have ever touched before, and although nitrate in the primary markets is not as low as it was this time last year the fact that the European demand for late shipments is extremely light, favors the view that there is lightly to be a considerable pressure to sell later on.

THE POSITION OF LYCOPODIUM.

In our issue of February 15th last, we noticed lycopodium editorially giving a statistical table of imports into New York for the past twelve years and commenting upon the fact that in the years 1880, 1884 and 1888, the presidential election years, the importations were much larger than in any other years except 1887, when the heavy importations were rendered necessary by reason of the reduction of stocks, consequent upon the very light receipts of the two previous years. Our predictions at that time pointed to a further advance in the price, which had even then jumped from thirty-two to thirty-seven cents, and in this prediction we were not amiss, for the week ending February 27th saw the price forty to fifty-five cents, while during the last fortnight forty-two to forty-six cents has been the quotation.

The present condition of the market is very strong an healthy. The supply in Russia is reported about sold out, while here the stocks, though pretty well distributed, are rather short. The liveliest part of the consumptive demand for this, a presidential campaign year, is yet to come. As the supply is reported insufficient for the requirements of the drug demand, and as the demand this year will, without any possible doubt, be a large one, interesting features are foreshadowed. The new crop will not be forthcoming until autumn, which fact contributes largely to the interest at present felt in the article. With these conditions bearing upon the market

we cannot but expect higher prices. Some holders are even hinting at a return to the old price of fifty cents which, in 1884, was the highest figure reached, and it would not be surprising if their most sanguine hopes were realized. So certain appears an advance of great importance, that we even hear of a retail druggist having laid in a considerable supply as a good speculative investment.

TRADE ITEMS.

Mr. John Fergusson, of the firm of Fergusson Bros., of Philadelphia, was in the city on Tuesday.

New York parties have purchased phosphate lands in Alachua county, Fla., for $80,000.

A syndicate of French capitalists has purchased 300 acres of phosphate lands near Anthony, Fla., for $20,000.

The Weatherford, Texas, Cottonseed Oil Co., reported as incorporated, has for its secretary H. H. Rainbolt.

Chicago parties are reported as having purchased 2,000 acres of phosphate land in Citrus county, Fla., for $50,000.

The Pharr Phosphate Co. has purchased 160 acres of phosphate land near Bartow, Fla., for $12,000 and will develop same.

The plant of the Frankford Chemical works, being the assigned estate of Savage & Stovel, Philadelphia, was sold at auction on Thursday last.

J. and W. Reeves, of Dallas, Texas are reported as to establish a factory in Shreveport, La., for the manufacture of water and fire-proof cement roof paint.

J. S. Pence, J. H. Tatum and J. R. Brownell have incorporated the Florida Phosphate Mining, Transportation & Storage Co. at Bartow, Fla., to develop phosphate mines, etc. The capital stock is $50,000.

Otis Grey, F. M. Loomis, F. S. Woodward and others have incorporated the People's Pebble Phosphate Co. at Plant City, Fla., with a capital stock of $350,000 for the purpose of developing phosphate mines.

The stock company reported as organized at Decatur, Texas, by Henry Greathouse, D. Waggoner and others for the erection of a cottonseed oil mill has been incorporated as the Decatur Cottonseed Oil Co. with a capital stock of $50,000.

Concerning the report in the daily papers as to the removal of the Brown Manufacturing Co. and the Spencer Medicine Co.'s factories at Greenville to Chattanooga, the president of the Brown Manufacturing Co., writes that the statement is incorrect.

A. H. Schultz, L. R. Keizer, John Black and others have incorporated the Crown Cork & Seal Co. at Baltimore, Md., to acquire and control the patents of the Bottle Seal Co., of Baltimore; also to manufacture a patent cork. The capital stock is said to be $1,000,000.

Messrs. Codman & Hall, Boston, carry in stock and have regular monthly shipments to both New York and Boston, Conti's castile soap, of all the descriptions of white, mottled and green, which they can furnish to the wholesale trade at the lowest market prices.

Mr. John A. Mathieu, Detroit, Mich., whose assignment was noticed last week, writes us that an error occurred in the published statement of liabilities, which are only $15,000, while the assets amount to about $60,000. The assignment was made to protect his creditors, and he expects to speedily straighten out the present difficulties; in fact, the works have not ceased running.

For the benefit of our subscribers, we are informed by The Walburn-Swenson Mfg. Co., of 31 Broadway, New York, whose advertisement is in this issue, that there is a demonstrating evaporating apparatus at the service of manufacturers wishing to have practical work done with their various solutions. This apparatus is constructed wholly of bronze and copper, and is equipped with every appliance required for satisfactory results. Demonstrations can be made either in New York or at the factories located in the eastern part of the United States.

The "Excelsior" carbonate of ammonia, manufactured exclusively by a new factory—the Michigan Ammonia Works, Detroit, Mich.—meets with great demand on account of its superior purity and convenience of package. It is put up in kegs and casks of 130 pounds and 350 pounds, respectively.

The second Food and Health Exposition of the New York Retail Grocers' Union is now being held at the Lenox Lyceum. The exhibits are all of a high order of merit and attractive. Among the finest are some of special interest to every one connected with the drug trade, members of which will find it to their interest to visit the exposition.

During the year 1891 there were shipped from Singapore 37,722 tons of gambier, including cube, of which 7,168 tons came to the United States. The total shipments to the United States in previous years was as follows: In 1890, 6,377 tons; 1889, 8,402 tons; 1888, 9,075 tons; 1887, 8,099 tons; 1886, 7,619 tons; 1885, 7,317 tons; 1884, 4,576 tons, and 1883, 5,990 tons.

The Carter White Lead Co., Omaha, Neb., have gotten up just the cutest device for a paper weight advertising their strictly pure white lead. It is in the form of a barrel of white celluloid on supports of the same material to imitate tortoise shell, making altogether one of the neatest advertising devices, which will retain a position on the desk and doubtless do effective work.

The latest anti-trust law decision holds that the state law of Missouri in reference to trusts is unconstitutional, that being the opinion of Judge Sherwood of the supreme bench of Missouri, rendered in a recent case, this opinion being passed upon two particular sections of the Missouri law, one of which provides a penalty for belonging to a trust, and the other compels testimony from the very persons who would be incriminated by such evidence—two sections which seriously conflict with each other, as a man cannot be compelled to testify against himself.

Fire broke out in the fertilizer factory of P. White's Sons, on Barren Island, Sunday, 20th inst., and all the factory buildings were burned to the ground. The loss is estimated at over $100,000. Very little insurance had been placed upon the property. The factory consisted of a two-story slaughter house and rendering house of wood about 100 feet square, a one-story storage house about 200 by 400 feet in extent, a two-story brick building for machinery, and several smaller wooden structures. The loss on machinery alone will exceed $50,000. The property was owned jointly by Police Justice Andrew J. White and his brother, Thomas White. Thomas White conducted the business and Justice White's interest was only financial.

Sunday advertising has been declared illegal by Judge Clark in a suit brought by George P. Rowell & Co. against the Walter Taylor Drug Co. at Atlanta, Ga. In 1889 Walter Taylor, as manager of the company, made a contract with Rowell for advertising in a number of Western papers, which was published. The results were not so great as Taylor expected, and he requested Rowell & Co. to discontinue the publication, which they declined to do. Taylor refused to pay the bill in full when it was rendered, and suit was brought for the amount. When the counsel for Rowell read the bill furnished by his clients, it was found that a considerable portion was for Sunday advertising. Judge Clark ruled that Sunday advertising was not legal, and in consequence could not be sued for.

Lately there was a report in the German press, which emanated from East Africa that Dr. Peters had discovered large saltpeter layers between the Kilimandjaro and the Vulkan Donjo Ngai on the so-called Natron Lake. The most lively hopes and the boldest expectations were entertained as to the future of the colony. The samples, however, sent by Dr. Peters have been subjected to a searching analysis with the result that we hear that it is not saltpeter, but simple natron. The existence of natron on the Kilimandjaro has been known for some time. The traveler Ehlers brought samples of the same so early as 1889 to Berlin, which according to the best account, came from the Dscheggas, who had obtained it in their turn from the Massais. These had, however, brought it from the plains of Kilimandjaro.—*Kuhlow's*

☞ *For other items see page 27.*

PETROLEUM NOTES.

The Ohio Oil Co., of Cleveland, has decreased its capital stock from $6,000,000 to $2,000,000.

The capital stock of the Buckeye Pipe Line Co., of Lima, O., has been increased from $6,000,000 to $10,000,000.

The Standard Oil Company of New Jersey, which was organized in 1882 with a capitalization of $3,000,000 has filed a certificate with the secretary of the state of New Jersey, changing its name to "The Standard Oil Company." Another certificate was filed by the new company, signed by Paul Babcock, the president, increasing the capital stock of the Standard Oil Company to ten millions, divided into 10,000 shares at $1,000 per share. The certificate states that this increase was determined by the board of directors at a meeting held March 4, 1892, and that two-thirds of the stockholders had given their assent.

When bids for furnishing fuel for the World's Fair were opened, the Standard Oil Company of Cleveland was found to have the lowest bid, on the basis of three barrels of fuel oil being equal to a ton of coal. The Standard Oil Company offered to furnish oil at the rate of 70 cents for a barrel of 42 gallons during 1892 and 72½ cents during 1893. Most of the fuel, of course, will be used in 1893. Various estimates have been furnished of the amount of coal necessary to keep the wheels going round. The lowest estimate was 75,000 tons. On that basis the oil company would deliver 225,000 barrels of oil at Jackson Park. The bids for coal were as follows: Weaver, Getz & Co., Shawnee coal No. 1, $2 44 a ton; No. 2, $2 38; Rhodes & Ramsey Company, Little Mud Creek lump, $2 60; New Pittsburg Coal and Coke Company, $3 08; Silver Creek and Morris Coal Company, $3 95. Officials of the Fair have not decided yet whether to use coal or oil for fuel. At the lowest bid for coal the oil would show a saving of $18,375, and this over the poorest quality of coal.

MISCELLANEOUS.

Drug Trade Prospects.

The belief appears to be general in the drug trade that business this year will be prosperous, at least so far as the volume of trade is concerned, but the prices obtained are far from being satisfactory and there does not seem to be much prospect of a material improvement in that direction. Representatives of the REPORTER have interviewed members of leading houses in the trade for the purpose of obtaining an expression of their views concerning the present and future of the market and the result is set forth below:

Mr. John McKesson jr., of McKesson & Robbins, asked regarding the condition of trade and the outlook for the coming season, said: "Business has been very good so far this year,—much better, in fact, than I had expected. The activity has not been confined to any special line nor to any particular section of the country. The Southern demand has fallen off as a result of the general financial depression in that section, but the Northern trade has more than made up the deficiency with us. Prices in general continue very low and this is attributed to the increasing value of gold in comparison with that of most commodities, including silver. The future will depend largely upon the result of the crops. The country would not be in such a good condition, financially, had it not been for the abundant harvests last year. They have enabled the United States to liquidate a good deal of its indebtedness abroad, and placed us in a position to meet our obligations as a nation. There is a struggle going on between different European nations, the object of each being to get all the gold they can, and that has given the metal a greater monetary value. The inevitable tendency is in the direction of bimetallism and it can only be checked by the discovery of another gold field as prolific as was California. With England's creditors, especially so with her colonies, it becomes a question of great magnitude whether she will ruin them by controlling gold and then insisting on settlements upon a gold basis."

Mr. William N. Clark, of W. H. Schieffelin & Co.: "From what I can learn of the condition of the drug trade in general, business is being done at very close figures and competition is very sharp. The complaint is general that the prices obtained are not what they should be, when the expense of doing business is taken into account. Our own business has been prospeaous, unusually prosperous. In fact the volume of trade in general is undoubtedly larger than ever before, but the expense of doing business is very much greater. Free boxes and free cartage increase the number of small orders, but decrease the profits in a proportionate degree. The outlook is very encouraging and I think we shall do a good business this year. The country generally is in a prosperous condition, except the South. Our business is increasing right along and we are as busy as we can be."

Mr. Andrew B. Rogers jr., of Rogers & Pyatt, said: "Our experience is that a good jobbing trade prevails. It is evident that merchants throughout the country are running on small supplies and pursuing a hand to mouth policy. With the opening of navigation and the removal of some of the disturbing elements that are now apparent upon the financial surface, I look for a general improvement in trade from all quarters. The latest advices from London report that more confidence is being shown in financial circles and operators are manifesting a disposition to come forward and take hold. In this country an improved condition of affairs will prevail later on, and I consider the outlook for 1892 good."

Mr. James Hartford, of Schoellkopf, Hartford & Maclagan: "I would say that business was very dull during last year, and we are feeling the effects of this dullness now, for there appears to be no great activity. It is a fact that for the last two years our market has been very free from speculation of all kinds Prices appear to have reached their lowest ebb about the end of 1891, and since then there has been a great improvement, not only in business, but in prices generally. I think the tendency of the market is to gradually improve all around. Stocks of drugs in the United States are smaller now than they have been for a great number of years, for dealers as a rule have been very chary of purchasing round lots. Consequently when consumers come to make regular purchases, stocks are often very light and insufficient to go around. I consider trade generally in a very healthy condition, and likely to continue so, and as the country is in a most prosperous position financially, I believe the drug trade will participate in this prosperity in time, and look to the future as favorable to our business."

Mr. George R. Hillier, of R. Hillier's Son Co.: "Business has been good. The outlook promises a good jobbing trade. I do not think we are going to have any speculation, but I should judge the tendency was for rather better prices. I look for an advance in the prices of roots, herbs and seeds, both foreign and domestic, because goods have been so low that it has not paid people to gather them, and unless they get better prices they will not do so. If they do not gather the goods, I shall look for very high prices on what stock we have in hand."

Mr. C. E. Tyler, of Tyler & Finch: "Trade has been very good indeed, as a whole. There are some articles that have been very dull, but they have been overshadowed by the goods that have been steadily advancing and which have been in very active demand and have made a good season's business. I think the outlook is good for the season's business. I do not look for any boom, but for a healthy trade. Most of our articles are very strongly held. Some of the goods which, during the last few weeks, have been firmly held, will, I think, further advance."

Mr. Hopkins of Dietz & Hopkins: "Business up to the middle of the month has been quite active. I think that this may be attributed to the fact that last year's business was quiet, leaving very little stock to be carried over by consumers. Consequently this year opened up with the expectation of an increased demand and higher prices. When anything of that sort exists it naturally brings about an activity in business. I think the outlook for the entire year is a brilliant one. I have recently returned from the West, where I found everybody satisfied with the way things are going on."

Mr. Lynch of Dillon & Co., said: "A remarkably good trade has been done since the beginning of the year; considerably over the average of the corresponding period of last year

with gratifying increases in several lines. The outlook is most encouraging and the volume of business in the first six months of the year will undoubtedly be more than realize expectation."

Mr. Robert B. Brown of the Occidental Oil Company: "The castor oil market is quite firm since the last advance, and the predictions made in regard to this market have been fully verified. The crop of castor beans having been marketed, its quantity is known, and the net results show a shortage of about 40 per cent. in comparison with last year."

Recent Treasury Decisions.

CARBONATE OF POTASH.

In the matter of the protest of R. R. Street & Co., against the decision of the collector of customs at Port Huron, Mich., as to the rate and amount of duties chargeable on certain carbonate of potash, imported per Huron, November 10, 1891, the following is the opinion by General Appraiser Lunt:—

We find as facts that the protestants, R. R. Street & Co., imported into Port Huron, November 10, 1891, 10 boxes containing 240 tins of so-called carbonate of potash, upon which duty was assessed as an alkali not specially provided for, at 25 per cent. ad valorem, under paragraph 76 of the act of October 1, 1890.

Upon a special report of the United States chemist at the port of New York, we find that said merchandise is crude carbonate of potash, and not refined, as stated upon the labels affixed to the cans; that the chemical constitution thereof is as follows:

	Per cent.
Water	12·04
Carbonate of potash	75 38
Carbonate of soda	5 89
Chloride of soda	6·52
Sulphate of soda	0·40
	100·23
Alkaline test, potash K-2-0	59·01
Platinic chloride test, potash K-2 0	51·35
Chlorine	3·90
Sulphuric anhydrite	0·22

It appears from the evidence of the chemist that the article has been somewhat advanced toward the condition of pearl ash, and is not so crude or dark colored as a certain quality of carbonate of potash which is known as black salts.

This merchandise is labeled as the product of the Greenbank Alkali Works o., St. Helens, England.

The protestants claim that said merchandise is exempt from duty, under the provisions of paragraph 685 of the act of October 1, 1890.

Upon the facts as found, it appearing that the merchandise is not refined carbonate of potash, we hold that it is exempt from duty as crude carbonate of potash, under the provisions of paragraph 685 of the act aforesaid. The protest is sustained.

The Standard Oil Trust Dissolved.

At a meeting of the certificate holders of the Standard Oil Trust, held on Monday, the 21st inst., pursuant to the call printed in the REPORTER a fortnight ago, the proposition to dissolve the Trust was unanimously passed. Of the total of 950,000 shares, 736,720 voted in favor of the resolution and none against it. After the call for the meeting had been read, S. C. T. Dodd, the solicitor of the Trust, offered the following resolutions:

Resolved, That the agreement dated Jan. 2, A. D. 1882, commonly known as the Standard Oil Trust agreement, and the supplement thereto dated Jan. 4, 1882, be and are hereby terminated this 21st day of March, A. D. 1892; and further

Resolved, That the affairs of the Trust shall be wound up by John D. Rockefeller, Henry M. Flagler, Wm. Rockefeller, John D. Archbold, Benjamin Brewster, Henry H. Rogers, Wesley H. Tilford and O. B. Jennings, and the survivors and survivor of them, in the following manner:

All property held by said Trust, except stocks of corporations, shall be sold by said trustees at private sale, and the proceeds thereof, together with any money belonging to the Trust, shall be distributed to the owners of the Trust certificates according to their respective interests.

All stocks of corporations held by said trustees shall be distributed to the owners of Trust certificates in proportion to the respective equitable interests of said owners in the stocks so held in trust, as evidenced by said Trust certificates; that is to say, each owner of Trust certificate or certificates shall be entitled to deliver said certificate or certificates for cancellation, and to receive in lieu thereof an assignment of as many shares or fractions of shares in each of the corporations whose stocks are held in the said Trust as he is entitled to by virtue of said certificate or certificates; it being the intent and meaning of this resolution that the equitable interest in said stocks represented by Trust certificates may thus on demand be converted into legal interests represented by assignments and transfers of said stocks by said trustees to the parties entitled thereto, which transfers and assignments may be entered on the books of the several corporations upon the demand of the holders of said assignments, thereby merging or converting equitable ownership into legal ownership in said stocks.

All purchases, sales, exchanges and cancellations of stocks or agreements therefore executed or executory, made by the trustees during the existence of the Trust, and all assents by said trustees as stockholders to purchases, sales and exchanges of corporate property, and to the formation and winding up of corporations, and all other acts of the said trustees during the existence of the Trust, are hereby ratified and confirmed.

Resolved, That the trustees hereby appointed to wind up the Trust have power to act by a majority of their number to fill any vacancies in their number, and to sign all papers by one or more of their number as attorney or attorneys in fact, and that they report from time to time to the parties interested all transactions had or done by virtue of these resolutions.

Resolved, That the power to vote upon any stocks then standing in the name of the trustees shall cease at the end of four months from this date.

Resolved, That personal notice of the adoption of these resolutions be given to all holders of Trust certificates.

Mr. Dodd then spoke in support of his resolution, stating that, "something over ten years ago a few individuals owning stocks in a number of corporations engaged in transporting and refining oil entered into an agreement by which their stocks were placed in the hands of trustees, and certificates were issued by said trustees showing the amount of each owner's equitable interest in the stocks so held in trust. This was not done in order to vest the voting power in the hands of a few persons because the persons chosen as trustees, then held, and always have held, the voting power by virtue of their absolute ownership of a majority of the stocks. It was not done to reduce competition, because the companies whose stocks were placed in trust were not competing companies, and could not be so long as their stocks were owned by these few persons. It was not done to limit production or to increase prices, but on the contrary was done to increase production, cheapen cost of manufacture and to lower prices, and it has been successful in that object far beyond the anticipation of those who originated the plan. It was called a 'Trust' because it was a trust in the sense in which the word was then understood. It vested a fiduciary obligation in a few for the benefit of many, and the trustees thus created have faithfully observed the trust confided in them."

After Mr. Dodd referred to the fact that a trust had been found a convenient plan by some engaged in other lines of business to suppress competiton, he said that he thought that the seventeen or eighteen States that had legislated against trusts had acted wisely. He recited also the quo warranto issued by the State of Ohio as an additional reason why the Standard Trust should dissolve. The resolution offered by him provided, he said, that the Trust should terminate to-day and that the trustees should continue to hold office for the purpose of winding up its affairs. "The difficulty of effecting this change in a business of such magnitude is considerable," he said in conclusion "and time must be allowed the liquidating trustees to mature their plans. Any expression upon that subject to-day would be premature, and it is hoped that those who have for ten years past found their faith in these trustees not misplaced will still feel assured that everything possible will be done to protect the interests of each and all, and that the same care that is taken by the individuals named as trustees of their own large interests will be taken as well of the interests of the smaller shareholders."

The resolutions were seconded by Alexander E. Orr. The vote on the resolutions was then taken by ballot. The Standard Oil agreement provides for nine trustees, but the vacancy caused by the death of Charles Pratt has not been filled.

In seconding the motion of Mr. Dodd, Mr. Alexander E. Orr paid the following compliment to the trustees and managers:

Mr. Chairman, I rise to express very great regret that the need has come for the resolutions offered by Mr. Dodd. While the Standard Oil Company has more, very much more, than met the expectation of its stockholders, it has been to the whole community in this country and elsewhere a great public good; how great very few of us comprehend. It has minimized the cost of production and given to the richest and poorest alike a magnificent light at a bagatelle of cost that comes within the reach of all. I affirm without hesitation that this trust, which is now declared to lack a legal construction, has been, during the period of its existence, a great boon to the people of the whole United States, and, indeed, I may add to the civilized and even uncivilized countries of the old world.

I am not going to extol its management except to say that it has been my observation in a somewhat lengthened business career that when I am shown a corporation that gives its stockholders and the public satisfaction, I can point to men of energy, intelligence and strict integrity who are invariably holding its helm. But the law of the land has said that from the standpoint of late legislative enactments, the Standard Oil Trust has not now a legal existence and therefor must be dissolved. We are law abiding citizens, and when our courts have spoken we respectfully and promptly bow to their decree, and it is for this reason that I ask to second the resolutions."

And yet, gentlemen, there is a side to these proceedings that gratifies me as I am sure it will you. With very great pleasure I recognize in Mr. Dodd's resolutions the names of the men proposed as our trustees in winding up the affairs of this corporation to be the same who have piloted the oil business throughout its existence into its splendid proportions of to-day. If this large assemblage of stock holders will cast a unanimous vote for their election it will not only be an expression of our thanks for what they have done for us in the past, a renewal of our confidence in their judgement and integrity both present and future, but an expectancy on our part, certified to them in this practical manner, but the outcome of their labors will be an able protection of our interests and in our opinion productive of the very best results. I move, sir, that we now proceed to ballot on the resoluions.

It was intimated that while some of the companies composing the Trust are to be reduced from 30 to 18 or 20, the capital of the remaining companies are to be increased accordingly. For instance, the Standard Company of New York will have its capital advanced from $5,000,000 to $7,000,000; that of New Jersey from $3,000,000 to $10,000,000; the Atlantic Refining Company of Philadelphia, from $500,000 to $5,000,000, and the Standard Company of Indiana from $500,000 to $1,000,000.

The companies that will probably be dissolved are the Acme Oil Co., of Buffalo; the Saone & Fleming Manufacturing Co.; the Pratt Manufacturing Co.; the Atlas Refining Co., and the Mix Oil Co., of Cleveland. The Macksburg Pipe Co. and the Connecting Pipe Line in Ohio will be absorded by the Buckeye Pipe Line Co., and several trading companies in the Southwest will be merged into the Standard Oil Company of Kentucky.

The Glover Fund.

This fund is to provide an annuity for a man to whom the chemical manufacturers of the whole world owe a deep debt of gratitude.

The acid manufacturers of the United States are conspicuous for their generosity when worthy objects appeal to them for aid. The following circular will explain itself:—

UNIVERSITY COLLEGE, LONDON,
Gower Street, W. C.

DEAR SIR.—We beg to bring before your notice the fact that Mr. John Glover, of "Glover Tower" celebrity, is, along with his wife, at present dependent on three of his children for support, none of whom are well able to afford it.

Mr. Glover is 75 years of age, and since a severe illness in 1888 has been deaf. He has no income of his own. He did not patent the tower known by his name, and invented 30 years ago, because in his own words:

"I was struggling out of adverse circumstances, and although I had mounted a few rungs of the ladder of social and pecuniary advancement, I was still too poor to face actions at law, which are generally forced on a poor inventor." * * *

It needs no further appeal from us to urge the claims of Mr. Glover to pecuniary help. His invention has rendered such service to those who manufacture sulphuric acid, to the customers in reducing its price, and to the public in removing a cause of nuisance, that we may confidently appeal for help. Mr. Mond, Mr. Chance, Mr. Worsley and other well-known manufacturers have already promised substantial aid, and we beg you to assist us in collecting a sum of at least £1,000, which at Mr. Glover's advanced age would purchase an annuity sufficient to provide for his wants.

Yours faithfully,
W. RAMSAY, Ph.D., F.R.S.
Professor of Chemistry in University College, London.
THOS. W. STUART,
District Manager, The United Alkali Co., ltd., Hebburn-on-Tyne.

Subscriptions will be received by H. J. Davis, president Davis Pyrites Co., 45 Wall street, New York.

To Manufacturers of Varnishes.

The undersigned, having been appointed by Mr. John Beattie, president of the National Association of Master Painters and Decorators, a committee to continue the testing of outside varnishes, request those makers of the above mentioned goods who desire to enter their goods in this test to send two (2) one-half pint cans of their best goods for outside work to Lewis Hopner, 160 East 124th street, New York City. They also ask that the makers will send to the above address the name and address of any dealer in New York City where the goods can be purchased in small packages.

They also ask that the makers will send directions for the treatment of the varnishes from the raw wood to finish. The committee will, however, reserve the right to disregard these directions, that all may be treated alike. They request that the cans sent (where sealed) may have plain seals, and that the labels be attached with rubber bands (as they are to be removed). Only one grade from each will be tested, and those only from bona fide manufacturers or their authorized representatives will be accepted. Please forward the goods not later than April 25th.

LEWIS HOPNER,
F. J THAYER,
JAS. ROACH.

M. H. P. AND D. A. OF U.S. A.,
Office of the President,
245 W. 46th street,
New York City.
March 8, 1890.

Pursuant to resolution passed at the convention held in St. Louis, calling for a committee to be appointed for the testing of varnishes, said committee to report at the next convention to be held in Cleveland, Ohio, I hereby appoint Lewis Hopner, of New York, chairman, F. J. Thayer, of Cambridgeport, Mass., and James Roach, of Detroit, Mich., said committe. And let me express my gratification that the trade has been enabled to secure the services of Mr. Hopner and his colleagues, in whom the entire trade has confidence.

JOHN BEATTIE, President.

The Duration of Petroleum.

In Mr. John T. Carll's latest report on the oil and gas fields of Western Pennsylvania, which covers the developments for the year 1887 and 1888, there are enumerated 88 different districts producing oil, and 44 that are more or less productive of natural gas. A fine map accompanies the report on which the oil and gas regions are outlined and colored. The work also contains some valuable statistics in oil and gas and a large number of oil well records of recent date. There are likewise several charts, showing comparative tables of production, shipments and stocks, columner and vertical sections of geological formations, etc. Mr. Carll's works are always accurate and reliable, but in spite of a long experience in the oil regions, and his observations of the gradually enlarging area devoted to the production of oil and gas, he still continues to predict exhaustion and ultimate decay and, to insist that the production of petrole-

um is but a temporary and vanishing phenomenon.

Since Mr. Carll's work has been in the hands of the printers no less than a dozen new productive oil pools have been discovered, and McDonald, one of the latest, has surpassed anything that has previously been known in the history of the oil business. Mr. Carll's map, too, offers many interesting hints as what yet may be brought to light, by the explorations of the drill, in the but partially tested regions of Alleghany, Beaver, Washington and Greene counties, in this state, to say uothing of the contiguous sections of Ohio and West Virginia. A dry hole or a gas well, can no longer be regarded as affording satisfactory evidence for the condemnations of larger areas of land for oil purposes, and every day continues to furnish new facts for the belief, that the petroleum regions of Pennsylvania contain much larger supplies of the oleaginous product than have been suspected by the geologist or dreamed of by the most imaginative wildcatter.

Mr. Carll's language in regard to the future of the petroleum supply is well worth quoting and although less decided than he has used on former occasions, is made more emphatic by quotations from Prof. Leslie. Mr. Carll says: It is not claimed in any part of this report, (nor indeed, in any previous one) that the oil and gas fields of Pennsylvania are exhausted, nor that they will be completely drained in a very few years * * * * * experience has demonstrated that oil and gas pools are exhaustible and that a constant production of oil or gas can only be maintained by sinking new wells, and adding new pools to those already developed. Hitherto with a wide range of territory to work upon, this has been possible, but the situation has changed and is changing rapidly. More than 150 pools of oil and gas have already been developed; they are scattered all along the great oil belt, and as far as can be judged, cover the most prolific parts of it. Is not the area left for future discoveries in the state greatly contracted thereby? Is it probable that production of 70,000 barrels a day, or even 60,000 can be maintained in Pennsylvania for the next five years, unless some new oil horizon be discovered, of which the prospecting of 29 years, has failed to give us a hint? * ** * Every year's unsuccessful prospecting outside the productive belts and of deep drilling within them, makes the outlook for the discovery of new oil horizons, less hopeful, and from this time forward, we have no reasonable ground for expecting, or even hoping that these oil fields will continue to supply the world with cheap light. * * * *

The following extract is from an address by Prof. J. P. Leslie, State geologist, which was delivered in Pittsburg in February, 1886, and quoted by Mr. Carll: "I take this opportunity to express my opinion in the strongest terms that the amazing exhibition of oil and gas, which has characterized the last 20, and will probably characterize the next 10 or 20 years, is nevertheless not only geologically but historically a temporary and vanishing phenomenon — one which young men will live to see come to its natural end. And this opinion I do not entertain in any loose or unreasonable form; it is the result of both an active and a thoughtful acquaintance with the subject. From the time that Col. Drake sunk the first well in the plains of Titusville, I have professionally participated in the history of the oil and gas developments, and believe myself to be familiar with whatever has been said and done on the premises; and there does not remain upon my mind a shadow of doubt respecting the practical extinction, in the comparatively near future, of that great commerce in oil, of which the people of Pennsylvania have foolishly taken so little advantage, when they might have accumulated from its sale in all quarters of the world a moneyed wealth unheard of in the history of our race. The opportunity is indeed still offered, but it is steadily diminishing, and in a few years it will entirely pass away, never to return. For I am no geologist if it be true that the manufacture of oil in the laboratory of nature, is still going on at the hundred thousandth part of rate of its exhaustion. And the science of geology may as well be abandoned as a guide, if events prove that such a production of oil in western Pennsylvania, as our statistics exhibit, can continue for successive generations. It cannot be. There is a limited amount. Our children will merely and with difficulty drain the dregs."

Yet the production of crude oil has gone on and, during the year 1891, was greater than during any preceding year, and the stocks of Pennsylvania oil were increased more than 7,000,000 barrels, from 1888, the last year covered by Mr. Carll's report, the production as shown by the pipe line runs, has increased from 44,509 barrels a day to 95,607 barrels a day in 1891. It is useless to prophesy of the future while the wildcatter is abroad in the land, and there remain farms to be leased and drillers to be hired. While a demand continues for petroleum, new sources of supply will continue to be found, and there is no reason to doubt that the deposits of petroleum are as great as those of coal, or any other mineral which contributes to the comfort and well being of the inhabitants of the earth.—*Derrick.*

The Manufacture of Mottled Soap.

The principal point in the preparation of mottled soap is to keep the soap and the coloring solution in such a condition that the coloring matter does not, on the one hand, crystallize out, forming separate flakes, or, on the other, become thoroughly incorporated in the soap, imparting to it a uniform blue color. To do this is the entire art of the manufacture of mottled soap.

If one has a good start, knows the weight of his lye, and, furthermore, carefully weighs everything into the kettle himself, the work is easy; and if much trimmings or chips have not been added, the first test generally proves satisfactory. It is different, however, when the weighing must be turned over to workmen, for, in spite of all warning, they will not be accurate, and the result is that a tedious series of trials are often necessary.

I carry out, says a writer in the *Seifenfabrikant*, the first test as follows: When the soap is ready and the coloring solution prepared, I put 50 pounds of the soap into a pot and add one-eighth of a liter of the coloring solution. If this, or both soap and solution, be too weak, the water glass agglutinates, at once forming either threads or small flakes, so that the soap immediately assumes a marbled appearance. In such a condition the soap cannot be used, the marbling would sink or settle very irregularly. Therefore, a few pounds more of lye should be crutched into the basic soap, or a small quantity may be added to the coloring solution, until the latter is quite evenly distributed throughout the soap, which becomes uniformly blue or red, as the case may be. If a small sample now be taken from this and allowed to cool, no flecks of color should be perceptible, but the whole should be of a uniform shade. The test pot should now be covered and allowed to stand undisturbed for half an hour, after which time the soap should be already marbled or the process be well under way. If the marbling has already sunk down, the soap is too weak, and a few pounds of lye must be crutched in again. If, on the other hand, the soap is of a uniform color or the marbling not sufficiently pronounced, the soap is too strong, and palm oil should be added. If not sure how much oil should be added, several samples should be taken at once, and 750, 1,075 and 1,400 grains of liquid palm oil added to the samples respectively, the samples then covered and allowed to stand. Whichever shows best at the end of half an hour is taken as the standard, and the quantity of oil necessary to add to the basic soap is calculated from the quantity used in this sample. It may happen, however, that the soap is satisfactory while the coloring liquid is too strong; this can be remedied by the addition of a small quantity of water glass to the liquid.

Nevertheless, in spite of all the testing, it will occasionally happen that the marbling of a batch of soap will settle more or less, therefore it is very necessary to watch the soap in the frame. If it be observed that the marbling is settling badly it must be crutched up, and this can be risked at a heat of 140° F., though that depends somewhat on the fluidity of the soap itself. If necessary, a little lye may be added in the frame. I have, moreover, found that even the most successful soaps show a settling of about a hand's breadth.

Only ultramarine blue or the ordinary red bole should be used as a coloring for the marbling; no other colors, not even those placed on the market by the various manufacturers of coloring material for this especial purpose, can be recommended for mottled soap, as they become too uniformly diffused throughout the mass.

I will now give the proportions for a few charges, and the method of handling them.

1.—SOAP.

	Pounds.
Bleached palm oil	1,000
Caustic soda lye, 20° B.	1,200
Potash lye, 38° B.	320
Salt water, 25° B.	480
COLORING.	
Lye, 20° B.	10
Water	10
Ultramarine blue	1
Or red bole	4
Water glass	20

Mix the palm oil with whatever trimmings are to be used, add the soda lye and crutch in; then crutch in the potash lye and salt water, and heat to 1,900° F., and then add the coloring matter.

2.—SOAP.

	Pounds.
Bleached palm oil	1,000
Potash solution, 33° B.	500
Caustic soda lye, 20° B.	1,200
Salt water, 24° B.	400
Chloride of lime solution, 15° B.	200
COLORING.	
Lye, 20° B.	10
Water glass	20
Ultramarine blue	1
Or red bole	4

Warm the oil and potash solution together, and crutch them in well; add the soda lye and boil. After boiling a quarter of an hour add the salt water and then the chloride of lime solution and withdraw the heat. The color should be mixed with some of the hot soap, and the whole stirred into the soap in the kettle at a temperature of 167° F. Immediately after mixing in the coloring, 20 pounds of oil, mixed with 10 pounds of hot water, should be poured on and well crutched in. The frame should remain uncovered.

3.—SOAP.

	Pounds.
Bleached palm oil	900
Cotton oil, peanut oil, or tallow	100
Caustic soda lye, 20° B.	1,200
Potash solution, 35° B.	600
Chloride of lime solution, 20° B.	150
Salt water, 24° B.	900
COLORING.	
Lye, 20° B.	16
Water glass	32
Water	8
Ultramarine blue	1
Or red bole	4

Mix the oils and lye in the kettle with any trimmings on hand, and boil for a quarter of an hour; this forms a handsome, clear, somewhat tough soap. Now add the chloride of lime solution and the salt water, and when these are well crutched in, throw in the remainder of the trimmings to be used, and when these are incorporated the basic soap is ready. The coloring should be added at about 146° F.

4.—SOAP.

	Pounds.
Bleached palm oil	840
Tallow	160
Soda lye, 20° B.	1,160
Potash solution, 35° B.	700
Salt water, 25° B.	900
Chloride of lime, 15° B.	250
COLORING.	
Lye, 20° B.	10
Water glass	30
Ultramarine blue	1
Or red bole	4

Mix the tallow and oil, heat, add the lye, and crutch together. If the mass is stringy now add rapidly one after the other the solution of potash, the salt water and the chloride of lime solution, and crutch them in very rapidly, and boil the whole for ten minutes. The trimmings are now added and will melt rapidly; if necessary, the kettle can be heated again. The coloring is added when the soap reaches the temperature of 158° F. in cooling.

If the soap is put into frames holding 10 to 12 cwt., it should be covered lightly. After half an hour or an hour, if the marbling is going on well, the covers can be removed. With large frames covering is unnecessary.

In this, as well as in the preceding formulæ, the tallow can profitably be substituted by the oily sediment left in bleaching linseed and cottonseed oils. These residues impart to the soap a light yellowish color which is much desired in some quarters, and which is much to be preferred to the color imparted by crude palm oil, as soaps colored with the latter oil bleached out so rapidly.

In conclusion I would state that according to my experience the best frames for mottled soap, irrespective of the method by which the soap is made, are those of iron holding from 10 to 15 cwt., and of these I give the preference to those made on the English pattern. Large frames prove unsatisfactory; the soap remains warm too long, consequently the danger of the marbling settling is very much enhanced.

The Rise and Progress of the Public Analyst in England.

BY J. A. WANKLYN.

The public analyst owes his existence to the operation of very general causes and in a sense is of no country in particular, He is not confined to England, and is to be found in English speaking countries—in United States and in Australia; and in France there is his foreign representative, for whose benefit some of our standard works relating to his peculiar province have been translated into French.

The particular causes which precipitated the passing of the 1872 "Adulteration of Food Act," which at once called into being the English public analyst, were to a great extent local, accidental, and individual in character.

In 1872 the influence of the *Lancet* raid on adulteration had not exhausted itself, and the year before that had witnessed Mr. John Gamgee's heroic effort in the *Milk Journal*, which, starting in January, 1871, presently began to publish a monthly list of vendors of deteriorated milk, giving names and addresses, together with the analyses of the milk as sold in London. The conclusion boldly placed by Mr. Gamgee before the British public was in point of fact this—that the skimming and watering of milk was not an occasional practice resorted to by the black sheep of the milk trade, but a very general custom of the trade—a custom followed, in fact, by nine-tenths of the milk trade in London.

Mr. Gamgee's disclosure of the general rottenness of the milk trade in London in 1871 was followed up by Mr. Rowsell's investigation into the "system of supply of provisions for the workhouses of the metropolis," which revealed a most scandalous condition of affairs reflecting the deepest discredit upon a section of the commercial system of the country. Mr. Rowsell's report was not published immediately, but was kept back for a while, and possibly might never have come before the public in its entirety if it had not been moved for by independent members of Parliament.

Under these circumstances Adulteration Act, 1872–73, was passed, and with the passing of that Act the activity of the English public analyst commenced. My own appointment as public analyst for Buckinghamshire took place under the 1872–73 Act, being one of the earliest under the new order of things. I had, moreover, been employed on the staff of the *Milk Journal*, and had devised the method of chemical analysis by which the work was accomplished, and to me Mr. Rowsell had entrusted the analysis of the workhouse milk, butter, and cheese mentioned in his report.

The 1872 Act was passed in panic and in haste, and, I think I am justified in saying that it worked well. Then came the 1875 Act, which instead of supplying the deficiencies of the fist Act, was in my opinion a retrograde step, blighting the public analyst for a generation. That Act contains a fatal clause, which has already borne the fruit which was anticipated when it was passed. There is a permissive reference of disputed cases to the Somerset House Laboratory.

It was foreseen that the practical effect of the clause would be to degrade the public analyst into a mere underling of the Somerset House Laboratory, and that has in point of fact taken place. The Somerset House Labratory has for its chief function the protection of the national revenue which is quite enough to tax its energies to the utmost.

The protection of the public health and of the pockets of the public is a different thing attogether, and ought to be entrusted to an organization altogether independent of the Excise.

The present position of the public analyst is about as unsatisfactory as possible. He has a position of sham independence, alike unfair to him and to the Excise Labratory, and it were better that the Excise should be at once saddled with full responsibility, and armed with the necessary authority, than that the present order of things should continue.

Twenty years, the length of time since the passing of the first Act

which called the public analyst into being, is a sufficiently long period to show the working of the legislation designed to restrain adulteration. For many years there was great reason for the complaint that the Act was almost a dead letter, owing to the want of proper machinery for the taking of samples, and it was a not uncommon thing for large districts to have public analysts, and to refrain from calling on them to discharge their functions. I know of an instance where there was a public analyst who was in office for six years, without once receiving a sample for analysis. That, however, is a condition of things which is altering, and there is now an appearance of activity. Last year, for instance, the return for the whole country is that more than 27,000 samples were analysed under the provisions of the Act.

This is a very respectable figure; but when we inquire into the details we find not much reason for congratulation.

Thus, in one of the most important districts we learn that the number of samples dealt with in the year was between 150 and 200. Inquiring what the samples were we find 37 samples of milk (which is to the point;) but we find 53 disinfectants, and only one solitary sample of bread. We are curious as to the disinfectants. The Act is entitled "Sale of Food and Drugs." We find 15 samples of drugs have been analysed under the Act,and we want to know under what pretext disinfectants are brought under such an Act as the Sale of Food and Drugs Act. The most serious feature is the circumstance that there should be only one solitary sample of bread. It is the play of "Hamlet" with the part of Hamlet left out. The district is the City of London itself.

Nutmeg Cultivation in Jamaica.

The *Journal of the Society of Arts* says that in the *Bulletin* of ths Botanical Department of Jamaica it is stated that a large stock of the very finest nutmegs for seed has been imported to Jamaica from Granada, and has been sown in the HopeGardens and when ready for distribution will be sold at the very low rate of three halfpence each, in large or small quantities. It is hoped that these arrangements will tend to develop het planting of nutmegs on a large scale in suitable districts in Jamaica. It is stated that already one order has been filled for 10,000 plants and another for 5,000. The germination of the seed in large quantities, and the care of the seedlings, is said to require the strictest attention to provent extensive loss. From the seed beds the seedlings are transferred to bamboo pots, and, when they have quite recovered from the transplanting and have formed good roots, they are ready for the nu'meg plantation. The planters must now exercise strict supervision over the laborers to see that the bamboo pot is carefully slit down on one side, and the plant, with the earth undisturbed round the root, gently ploced in the hole prepared for its reception. If this operation is done too harshly or clumsily the tip of the tap root is broken and the plant soon dies.

Nutmeg trees require a deep, rich, loamy soil, moist, but not swampy, with a humid atmosphere. They thrive best in steady river valleys from sea level up to 300 or 400 feet, but they will grow in favorable situations up to an elevation of 2,000 feet. The trees should be placed at distances of 25 or 30 feet apart, and if the situation is not naturally shady and sheltered, trees should be planted for the purpose of breaking the wind as well as for shade. The trees are a long time coming to maturity, not producing a crop, as a rule, till they are nine years old; and only when they first flower, at six or seven years of age, is it possible to determine whether they are male or female. A very small proportion of male trees is left for fertilization by insects; the rest are cut down, and fresh plants are substituted. The fertile trees continue to produce fruit for seventy or eighty years. On the average each tree will yield ten pounds of nutmegs and about one pound of mace every year, and when highly manured it is said they will produce ten times that amount.

In connection with the same subject, a note on the curing of nutmegs n Grenada is given in the November number of the Jamaica *Bulletin*, the details of which map be of service to those who are starting the culture. The process is said to be that which is adopted for preparing the nutmegs for the London market. The nutmegs are picked up from under the trees every day except Sunday. On being brought into the boucan, the mace is peeled off and pressed flat between heavy blocks of wood, where it is left for two or three days, then put into a case and left till it reaches the proper color. The nutmegs are put into receptacles (with fine mesh bottoms, so that the air can pass through) inside the boucan, and left there for three weeks or a month, in fact until the nut begins to shake inside the shell. They are then shown the sun for a couple of hours a day for two or three days. After this they are cracked. Great care is necessary here, for if the outside shell is struck too hard it makes a black spot in the nutmeg, which affects the value considerably. When cracked the nuts are sorted accordidg to size, put into ordinary flour barrels and shipped. Regarding the value of the product of nutmeg trees, when in full bearing,it is stated that one grower in 1883 realized from two trees as much as £30.

The Paddock Pure Food Bill.

Following is the text of the Paddock pure food bill as it passed the Senate. It is entitled "An act for preventing the adulteration and misbranding of food and drugs, and for other purposes:"—

That for the purpose of protecting the commerce in food products and drugs between the several States, the District of Columbia, and the Territories of the United States and foreign countries, the Secretary of Agriculture shall organize in the Department of Agriculture a section to be known as the food section of the chemical division, and make necessary rules governing the same, to carry out the provisions of this act under direction of the chief chemist, whose duty it shall be to procure from time to time, under rules and regulations to be prescribed by the Secretary of Agriculture, and analyze or cause to be analyzed or examined samples of food and drugs offered for sale in any State or Territory other than where manufactured or in a foreign country: *Provided*, That the same be in original or unbroken packages. The Secretary of Agriculture is hereby authorized to employ such chemists, inspectors, clerks, laborers, and other employes as may be necessary to carry out the provisions of this act.

SEC. 2. That the introduction into any State or Territory or the District of Columbia from any other State or Territory or the District of Columbia or foreign country of any article of food or drugs which is adulterated or misbranded within the meaning of this act, is hereby prohibited, and any person who shall knowingly ship or deliver for shipment from any State or Territory or the District of Columbia or foreign country to any other State or Territory or the District of Columbia or to a foreign country, or who shall knowingly receive in any State or Territory or the District of Columbia from any other State or Territory or the District of Columbia or foreign country, or who, having so received, shall knowingly deliver, for pay or otherwise, or offer to deliver to any other person, in original unbroken packages, any such article so adulterated or misbranded within the meaning of this act, shall be guilty of a misdemeanor, and for such offense be fined not exceeding two hundred dollars for the first offense, and for each subsequent offense not exceeding three hundred dollars, or be imprisoned not exceeding one year, or both, in the discretion of the court.

SEC. 3. That the chief chemist shall make, or cause to be made, under rules and regulations to be prescribed by the Secretary of Agriculture examinations of specimens of food and drugs offered for sale in original or unbroken packages in any State or Territory other than where manufactured, or in a foreign country, which may be collected from time to time, under rules and regulations to be prescribed by the Secretary of Agriculture, and under his direction in various parts of the country, and publish in bulletins the results of such analyses. But the names of manufacturers or venders of such foods or drugs analyzed shall in no case be published in such bulletins until after conviction in the courts of violation of this act. If it shall appear from such examination that any of the provisions of this act have been violated the Secretary of Agriculture shall at once cause a report of the fact to be made to the proper United States district attorney, with a copy of the results of the analysis duly authenticated by the analyst under oath.

Sec. 4. That it shall be the duty of every district attorney to whom the food section shall report any violation of this act to cause proceedings to be commenced and prosecuted without delay for the fines and penalties in such case provided, unless, upon inquiry and examination, he shall decide that such proceedings can not probably be sustained, in which case he shall report the facts to the food section.

Sec. 5. That the term "drug" as used in this act, shall include all medicines for internal or external use. The term "food" as used herein, shall include all articles used for food or drink by man, whether simple, mixed, or compound. The term "misbranded," as used herein, shall include all drugs, or articles of food, or which enter into the composition of food,the package or label of which shall bear any statement purporting to name any ingredients or substances as not being contained in such article, which statement shall be false in any particular; or any statement purporting to name the substances of which such article is made, which statement shall not fully give the names of all the substances contained in such article in any measurable quantities.

Sec. 6. That for the purposes of this act an article shall be deemed to be adulterated—

In case of drugs:

First. If when sold under or by a name recognized in the United States Pharmacopœia it differs from the standard of strength, quality, or purity according to the tests laid down therein.

Second. If when sold under or by a name not recognized in the United States Pharmacopœia, but which is found in some other pharmacopœia or other standard work on materia medica, it differs materially from the standard of strength, quality, or purity according to the tests laid down in said work.

Third. If its strength or purity fall below the professed standard under which it is sold.

Fourth. If it be an imitation of and sold under the specific name of another article.

In the case of food or drink:

First. If any substance or substances has or have been mixed and packed with it so as to reduce or lower or injuriously affect its quality or strength, so that such product, when offered for sale, shall be calculated and shall tend to deceive the purchaser.

Second. If any inferior substance or substances has or have been substituted wholly or in part for the article, so that the product, when sold, shall tend to deceive the purchaser.

Third. If any valuable constituent of the article has been wholly or in part abstracted, so that the product, when sold, shall tend to deceive the purchaser.

Fourth. If it be an imitation of and sold under the specific name of another article.

Fifth. If it be mixed, colored, powdered, or stained in a manner whereby damage is concealed, so that such product, when sold, shall tend to deceive the purchaser.

Sixth. If it contain any added poisonous ingredient or any ingredient which may render such article injurious to the health of the person consuming it.

Seventh. If it consists of the whole or any part of a diseased, filthy, decomposed, or putrid animal or vegetable substance, or any portion of an animal unfit for food, whether manufactured or not, or if it is the product of a diseased animal, or an animal that has died otherwise than by slaughter: Provided, That an article of food or drug which does not contain any added poisonous ingredient shall not be deemed to be adulterated in the following cases:

First, in the case of mixtures or compounds which may be now or from time to time hereafter known as articles of food under their own distinctive names, and not included in definition fourth of this section;

Second,inthe case of articles labeled,

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branded, or tagged so as to plainly indicate that they are mixtures, compounds, combinations, or blends;

Third, when any matter or ingredient has been added to the food or drug because the same is required for the production or preparation thereof as an article of commerce in a state fit for carriage or consumption, and not fraudulently to increase the bulk, weight, or measure of the food or drug, or conceal the inferior quality thereof; Provided that the same shall be labeled, branded, or tagged, as prescribed by the Secretary of Agriculture, so as to show them to be compounds and the exact character thereof: And provided further, That nothing in this act shall be construed as requiring or compelling proprietors or manufacturers of proprietary medicines to disclose their trade formulas;

Fourth, where the food or drug is unavoidably mixed with some extraneous matter in the process of collection or preparation.

Sec. 7. That every person who manufactures for shipment and delivers for transportation from any State or Territory to any other State or Territory any drug or article of food, and every person who exposes for sale or delivers to a purchaser any drug or article of food received from a State or Territory other than the State or Territory in which he exposes for sale or delivers such drug or article of food, and which article is in the original unbroken package in which the same was received, shall furnish, within business hours and upon tender and full payment of the selling price, a sample of such drugs or articles of food to any person duly authorized by the Secretary of Agriculture to receive the same, and who shall apply to such manufacturer or vender or person delivering to a purchaser such drug or article of food for such sample for such use, in sufficient quantity for the analysis of any such article or articles in his possession. And in the presence of such dealer and an agent of the food section, if so desired by either party, said sample shall be divided into three parts and each part shall be sealed by the seal of the food section. One part shall be left with the dealer, one delivered to the food section, and one deposited with the United States district attorney for the district in which the sample is taken. Said manufacturer or dealer may have the sample left with him analyzed at his own expense, and if the results of said analysis differ from those of the food section, the sample in the hands of the district attorney shall be analyzed by the third chemist, who shall be appointed by the president of the Association of Official Agricultural Chemists of the United States, in the presence of the chemist of the food section and the chemist representing the dealer, and the whole evidence shall be laid before the court.

Sec. 8. That whoever refuses to comply, upon demand, with the requirements of section seven of this act, shall be guilty of a misdemeanor, and upon conviction, shall be fined not exceeding one hundred nor less than ten dollars, or imprisoned not exceeding one hundred nor less than thirty days or both. And any person found guilty of manufacturing, or knowingly offering for sale, or selling an adulterated, impure, or misbranded article of food or drug in violation of the provisions of this act, which is a subject to interstate commerce, shall be adjudged to pay, in addition to the penalties heretofore provided for, all the necessary costs and expenses incurred in inspecting and analyzing such adulterated articles which said person may have been found guilty for manufacturing, selling, or offering for sale.

Sec. 9. That this act shall not be construed to interfere with commerce wholly internal in any State, nor with the exercise of their police powers by the several States.

Sec. 10. That any article of food or drug that is adulterated within the meaning of this act and is transported or is being transported, from one State to another for sale, and is still in the original or unbroken packages, shall be liable to be proceeded against in any district court of the United States within the district where the same is found and seized for confiscation by a process of liable for condemnation; and if such article is condemned as being adulterated the same shall be sold, and the proceeds thereof, less the legal costs and charges, shall be paid into the Treasury of the United States. The proceedings in such libel cases shall conform as near as may be to proceeding admiralty, except that either party may demand trial by jury of any issue of fact joined in such case, and all such proceedings shall be at the suit of and in the name of the United States.

Manufacture of Iron-Free Sulphate of Alumina.

In the present article we propose giving a detailed description of the chemical principles involved in the different processes which have been suggested for the elimination of iron from crude sulphate of alumina liquors, in the manufacture of the sulphate of alumina of commerce; and also, to point out as far as possible, those processes which have stood the test of manufacturing practice. Sulphate of alumina free from iron is an important commercial product, commanding as it does a ready sale in virtue of the fact that it contains a greater percentage of anhydrous sulphate of alumina than is found in the ordinary potash and ammonia alums. It is easily soluble in water, decomposes as readily as the more neutral alums, and as it is now made in large quantities, quite as free from iron it bids fair in course of time to entirely displace these salts in certain industries. For sizing in paper making, and in special cases for mordanting in dyeing, pure sulphate of alumina is the most economical aluminous material known. It contains particularly one-third more $Al_2 3 (SO_4)$ than the ordinary rock alums, and is cheaper in the same ratio, as it is substantially the same price weight for weight as these salts. The importance of the manufacture to the chemical trade is therefore undoubted. In recent years it has made rapid strides. Indeed there are a multitude of interesting processes in active operation to-day in different countries of Europe and in America, producing a product more or less free from iron, which are the outcome of patient and laborious research, and of the keen observance of the behavior of the reagents, whose properties were until recently little understood to be capable of technhical application.

Although crystals of sulphate of alumina separate from concentrated solutions of the salt, having the definite composition $Al_2 3(SO_4)$ 18 H_2O, yet these crystals are too soft to be easily removed from the mother-liquor. Unlike the alums it this respect, no crystlization process for obtaining it free from iron is likely to succeed. The crystals readily melt in their water of crystallization, and are very soluble in water. If heated to a moderately high temperature the greater part of the combined water is driven off, leaving a white amorphous powder more or less soluble in water. When strongly ignited it is almost wholly decomposed, leaving behind nearly pure anhydrous Al_2O_3. This ignation method has been suggested as a means of obtaining pure Al_2O_3, but the temperature of dissociation is too high for it to be of any practical value.

The raw materials employed in the manufacture of the pure salt are either the mineral called bauxite, or alum clay an sulpururic acid. Sometimes china clay is use instead of bauxite for obvious reasons, viz: It contains less iron per unit of soluble alumina than either bauxite or alum clay. The bauxite or alum clay is dried in a kiln and freely ground before being used, whilst China clay is calcined at a higher temperature to expel the 10 per cent. or so of water in combination with the silicate of alumina, and then subjected to the same treatment of grinding and sieving. China clay is more suitable than bauxite for certain processes, mainly because of the comparatively smaller quantity of iron it contains. Bauxite is a native hydrate of alumina found extensively in Ireland and France. In the latter country it is found in the commune of Baux, from whence it takes its name. The Irish variety when dried and ground contains about 52 per cent. Al_2O_3, all of which is practically soluble in sulphuric acid, and about 25 per cent. of combined water. China clay, on the other hand, is a pure silicate of alumina with more or less free silica. The quality most suitable for making sulphate of alumina should be as free from iron as possible consistent with the price. The iron which exists as ferrous silicate varies in amount from two-tenths per cent. to 1 per cent., whilst the alumina ranges from 35 to 42 per cent. During the calcining of the clay the ferrous silicate is decomposed, the whole of the iron being converted into the ferric state. This almost wholly passes into solution when the calcined clay is subjected

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to the action of the sulphuric acid. Of the Al_2O_3, seldom more than 80 per cent. passes into solution as sulphate.

The conversion of the alumina in bauxite into sulphate is a simple operation. The ground mineral is gradually added to oil of vitriol contained in a circular lead-lined tank provided with a revolving agitator in the proportion of 46 parts first quality bauxite to 100 parts o. v. of 123° Twaddell (70 per cent. H_2SO_4), the acid being previously diluted to about 100° Twaddell, and slightly heated by injected steam. When once the chemical action begins it rapidly assumes formidable proportions owing to the amount of heat evolved. The number of calories given out during their action being 20,990 x 3=62,970 [Al_2O_3, yH_2O, $3(SO_4)$ Aq. Naumaun]. The mass swells and rises almost to the top of the vessel. Cold water has frequently to be added to allay the violence of the reaction. When this is going on an oxidizing agent such as nitric acid or nitrate of soda is added to the mixture in sufficient quantity to oxidize all the ferrous oxide. Water is finally added, and as nearly all the purifying processes demand that the solution be neutral, that is, that no acid should exist in it over and above that required to form $Al_2(SO_4)_3$, ground chalk made into a milk with water is added to the liquor to render it slightly basic (to tropæline). The crude muddy liquor is now allowed to remain at rest in large settlers till the suspended matter has subsided. The clear liquor, of a slightly yellowish tint, should show a gravity of from 35° to 40° Twaddell tested cold. It is then ready for the purification process.

China clay may be dissolved in a similar way, but it takes a long time as the action is not so energetic. A tolerably large excess of clay is used in order to saturate all the sulphuric acid. This proportion of calcined finely ground and sifted clay to acid is proportionately greater—62 parts clay to 100 parts O.V. (70% H_2SO_4). The strength of the acid actually employed is about 100° Twaddell, and as in the foregoing case, a very small quantity of a nitrate is added to be perfectly sure all the iron exists in ferric state. The mixture is kept as hot as possible for a considerable time to ensure the complete saturation of the acid, after which it is diluted with water as before, and the sedimentary matter settled out. The following analyses show the composition of crude sulphate of alumina liquors made in this way from bauxite and cornish china clays:—

	Bauxite liquor. Grams per litre.	China clay liquors. Grams per litre. No. 1.	No. 2.
Alumina Al_2O_3...	48·30	37·20	28·99
Combined SO_3...	112·58	86·80	67·65
$Al_2(SO_4)_3$.....	160·84	124·00	96·64
Free acid H_2SO_4..	1·48	1·176	11·76
Ferric oxide Fe_2O_3	2·06	0·136	0·56
Sp. gr. at 60° Fah	1.150	1·120	1·120

The earliest attempt to purify the liquors from iron was recorded in 1837 by Weissman, who in that year obtained a patent in this country for removing the iron with yellow prussiate of potash (K_4 Fe Cy_6). The process does not appear to have been a success, owing doubtless to the difficulty of obtaining the liquors free from ferrocyanide and the Prussian blue which was formed. Although other inventors followed rapidly in Weissman's train with the same application, they failed to establish a satisfactory process. Indeed, it was not till forty years later that this was done. In 1879, Mr. J. W. Kynaston saw clearly that if ferrocyanide was to be used means must be provided to remove the excess required, and also to remove the last traces Prussian blue, which discolored the otherwise perfectly clear liquor. Unless this could be efficiently effected the liquors would not be entirely free from iron because the precipitant (K_4 Fe Cy_6) contained iron itself; and beside the solid product, which might only contain a trace of iron, would still be unsaleable owing to its color. Since 1879 when Mr. Kynaston so adequately placed the use of ferrocyanides on a successful basis, many investigators have worked with a view to obtain other reagents for separting the iron, and none more carefully and laboriously than Kynaston himself, who is the originator of the best and most successful processes.

KYNASTON'S ARSENIC AND FERROCYANIDE PROCESS.

This process was invented in 1879, and introduced to the British Association in 1880 in a paper read by Kynaston himself. He starts with bauxite and oil of vitriol, and whilst the chemical action is going on between those substances, adds sufficient arsenious acid to precipitate the iron as arsenite of peroxide. The batch of crude sulphate of alumina liquor is then rendered basic by the addition of milk of chalk, and is finally run off into large lead-lined tanks, where it remains for three or four days till perfectly cold. The liquor assumes a deep yellowish tint, due to the formation of the arsenite. After the lapse of time a sample of the clear liquor is withdrawn, and a small quantity of milk of lime added. If the yellow tint deepens, more chalk is added to the bulk of the liquor, and this again allowed to stand. It is necessary that the liquor contains tetrabasic sulphate of alumina. Without this, the ferric oxide separates but sparingly. By carefully repeating the addition of chalk at intervals of a few days, and continued settling, from 80 to 90 per cent. of the original amount of ferric oxide is removed. It is, however, quite impossible to get the whole of the iron to separate from solution owing to the solubility of the arsenite of peroxide, and Kynaston, in order to procure a perfectly pure product, now treated the partially purified liquor in a separate vessel, with a slight excess of ferrocyanide of calcium to throw down the remainder of the iron as Prussian blue. The excess of ferrocyanide he then removes by adding a small quantity of sulphate of zinc or copper, which had also the peculiar effect of throwing down every particle of blue coloring matter held in solution or suspension in the liquor. Without such treatment it was deemed impossible to get rid of the Prussian blue. The liquors, although free from iron and ferrocyanide, still contained the excess of arsenic and zinc or copper, and to remove these it was then subjected to the action of a sulphide, preferably sulphide of calcium, made by igniting pure sulphate of lime and oil cake in nearly equivalent proportions in a closed retort. The solution after filtration of settling yielded on evaporation a final product which is undoubtedly one of the purest sulphate of alumina known. It contains no trace of iron by the sulphocyanide test, and otherwise is almost pure sulphate of alumina. Provision was made to recover the ferrocyanide in the form of the calcium salt, by heating the Prussian blue precipitate after it was washed by subsidence with lime, and settling out the ferric oxide.

Owing to the four distinct chemical operations of purification, it is obvious enough that this process is an elaborate and tedious one, requiring a large quantity of plant, but notwithstanding this, it was for many years most successfully worked under the skilled and patient supervision of the originator. It is in active operation to-day, although it has to bear the competition of cheaper and less complex processes.

BINOXIDE METHODS.

Under this general title are included a series of processes of comparatively recent origin. In all of them a binoxide in combi ation with a base, or with water, is used as the precipitating agent. The exact chemical constitution of these reagents is not known, and, so far as we are aware, have been little studied. They are powerful enough to perform the work efficiently and well. In 1881 Drs. Semper and Phalberg obtained a patent for the removal of iron from alum liquors by using a peculiar combination of binoxide of lead with water; and, rapidly succeeding him, Kynaston again entered the field with a patent for the use of hydrated peroxide of manganese. Still later, Messrs. Hood and Salamon followed with the application of hydrated binoxide of tin. It was well known to chemists previous to 1881 that, under certain conditions, the peroxides of lead, manganese, and tin, had the property of combining with ferric oxide, but no industrial application of this property was made till Semper and Phalberg introduced their process for purifying sulphate of alumina liquors in that year by means of hydrated peroxide of lead. The compounds which these peroxides severally form with ferric oxide have been imperfectly studied, and consequently their constitution is not known. Experience on the industrial scale has, however, shown that they bear a remarkable relation to one another, for the quantities of each required to remove say one unit of iron are nearly proportional to their atomic weights. But this is only so when great care is observed

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in their manufacture. Each of the patentees specify very distinctly how their individual binoxides, or combinations thereof, are prepared, and lay considerable stress on the method of preparation as well as on the mode of using them. The conditions as regards neutrality or basicity etc., of the aluminous liquors are substantially the same in all three processes. All require the iron to be in the ferric state, and the liquor to be basic to the extent at least of the SO_3 in combination with this ferric oxide. We will, therefore, recapitulate the methods of preparing the hydrated binoxides, and then treat generally of the purifying operation.

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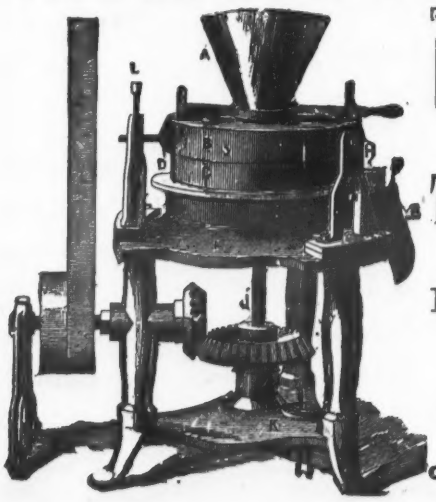

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PREPARATIONS OF PLUMBIC DIOXIDE HYDRATED BINOXIDE OF LEAD.

Messrs. Phalberg and Semper (Eng. pat. 5,579, Dec. 20th, 1881) reccommend the following method of preparing this reagent, on the large scale, by first grinding litharge (PbO) and strong brine (NaCl) together in a mortar mill. Basic lead chloride is formed. The thin pasty mass is then treated in the cold with solution of bleaching powder (calcium hypochlorite), whereby hydrated binoxide of lead is immediately formed. This is washed by decantation with water. It is used in the pasty condition, and should be neither heated nor dried. It should be of a dark brown color, and on no account be black; the black modification being too dense and less hydrated than the other, and less suitable for the purpose in view. As an alternative method, they treat red lead Pb_3O_4 with cold strong nitric acid, which removes two equivalents of PbO, leaving highly hydrated peroxide of lead.

PREPARATION OF HYDRATED BINOXIDE OF MANGANESE.

Kynaston (Eng. pat. No. 3,809, 1882) obtains this from Weldon's mud, which is substantially a mixture of manganites, *i. e.*, peroxide of manganese in combination with manganous oxide, lime, and water. In the preparation of the hydrated peroxide from this mud, it is first treated with a dilute acid to remove the "bases" MnO and CaO, and then thoroughly washed until free from soluble salts. It is not heated, for in doing so it would become partly dehydrated, and thereby rendered inactive. The reagent thus prepared has been called by Mr. Kynaston "manganite of hydrogen." It is very active in combining with the ferric iron, and consequently performs the work of removing this substance from the aluminous liquors thoroughly and quickly. If the acid treatment of the Weldon mud to remove the whole of the MnO in combination with the MnO_2 has not been efficiently carried out, or if the iron in the aluminous liquor has not been wholly oxidized to the ferric state, it is obvious that manganese will pass into solution, owing, first, to the solubility of MnO in weak acid solution, and secondly, to the reduction of the MnO_2 by ferrous salt. Although a small quantity of manganese invariably passes into solution in actual work on the large scale, yet to insure that this will not be too large, the mud, after treatment with acid and subsequent washing, is usually treated with a small quantity of bleaching powder solution, till, in fact, the rose color of a permanganate is formed, and then finally washed before it is added to the crude aluminous liquor.

PREPARATION OF META-STANNIC ACID (HYDRATED PEROXIDE OF TIN).

Messrs. Hood and Salamon obtained a patent (No. 12,110—1886) for the preparation of this reagent. They start by heating metallic tin and sulphuric acid together, and then they oxidize the resulting mass, which contains more or less stannous salt, with nitrate of soda. The mixture is now largely diluted with water in order to precipitate the meta-stannic acid. The precipitate, which is light and flocculent, is washed by decantation with successive additions of fresh water till nearly free from acid, and finally made slightly alkaline with soda or other alkali. It may even be rendered strongly alkaline in order to form a meta-stannate. The meta-stannic acid or meta-stannate is now ready for use. Instead of a nitrate, ferric sulphate or manganese dioxide—Weldon's manganese mud—may be employed for oxidizing the stannous salt. The whole of these operations are conducted as much as possible in the cold, so that the activity of the meta-stannate may be maintained. Stannates or stannic acid are not nearly so active as the corresponding meta-salts.

The industrial use of these binoxides or salts is very simple. After the crude aluminous liquor has been oxidized, neutralized with chalk, and the sedimentary matter settled out, a certain quantity of either of the binoxides is added, the liquors meanwhile being kept in a continual state of motion. In a short time a sample of the mixture is withdrawn, filtered, and the filtrate tested for iron. If a trace only remains enough binoxide has been added, and after the liquors have been allowed to settle, as a general rule they will be found to be free from iron. In this way the purification is conducted in one operation. Another and more economical method, as regards the quantity of reagent used, especially when this is expensive, is first to treat the crude aluminous liquor with such a quantity of the binoxide so as not to precipitate the whole of the iron. After the precipitate has been allowed to settle, the clear liquor is run off into another vessel, and then treated with an excess of the freshly-prepared binoxide. When this has subsided the iron free alum liquor is run off, whilst the precipitate, partially saturated with iron, is used again to purify a fresh quantity of the crude liquor.

There is considerable expense attending the preparation of these binoxides, and, consequently, considerable judgment must be observed in the way they are used. When they are practically saturated with ferric oxide, they undergo a treatment to free them from this body, thus revivifying them for re-use again. In carrying this out they are washed with water to get rid of soluble aluminous salts, and then are agitated for a considerable time in cold dilute sulphuric acid. The ferric oxide passes into solution, and is separated from the hydrated binoxide by washing with pure cold water. The precipitate is then ready for use again. In no case, however, is the recovered binoxide so active as that originally prepared as described by each of the inventors. They all become more or less inactive after repeated use, and finally become quite useless. This is doubtless due to a gradual change in their chemical constitution, and mainly, we believe, to dehydration. It is a significant fact that if any of these freshly-prepared bodies be boiled for a length of time, they are rendered much less active and, indeed, substantially worthless as precipitating agents.

Dealing with metallic oxides more or less pure and such acid solutions, it is to be expected that a portion of the metal corresponding to these oxides will find its way into the aluminous liquor. This so frequently takes place in actual practice that provision is made in all these processes to remove any manganese, lead, or tin which is rendered soluble. The presence of lead or tin in the final product may be neglected in many cases, for only traces at the most of these metals pass into solution, and such traces will do little harm in many of the uses to which sulphate of alumina is put. Their presence does not discolor the dry sulphate of alumina; but in the case of manganese it is somewhat different. A slight trace of this metal will not only discolor the final product but render it unsuitable for many purposes. Hence the alum liquor after its purification from iron by either of these binoxides is further purified to free it from manganese, lead or tin. Lead and tin may be removed as sulphides by adding sulphide of calcium to the liquor, or by passing a stream of sulphuretted hydrogen through it.

The use of sulphides or H_2S also separates any arsenic in the liquor, derived from the vitriol used for dissolving the bauxite. Kynaston recommends the use of a hypochlorite for precipitating the manganese held in solution as Mno_2; but the best way is that recommended by Semper (Eng. Pat. 4.400—1882), which consists in adding a permanganate. This throws down all the manganese as MnO_2.

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See Page 23

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Note.—*Our prices are for large lots except when otherwise specified, and buyers of small quantities must expect to pay an advance on these figures.*

Complete prices current will be found on page 48.

SATURDAY EVENING March 26, 1892.

The first breath of real spring has infused new life into the paint trade but it is altogether too soon yet to hazard any opinion as to what the result of the season will be. Everybody is looking for a large trade even though the season is somewhat backward and while it is probable that we shall see very little improvement in prices, the increased volume of business expected, should it materalize, would go a long way toward making up the loss of profits on individual transactions. Prices are about as low as they can go considering the cost of raw material, and for that reason manufacturers are unalterably opposed to granting any further concessions, although by so doing they have the assurance that they could materially increase the volume of their business.

White Lead, Zinc, Etc.

Pig Lead.—Early in the week a considerable business was done at 4 15c, but holders are not disposed to continue at that figure although it is probable that a good deal of lead could be sold at 4 15c. The available supply seems to have been pretty closely absorbed by recent business, and now holders want 4 20@4 25c. Buyers' views at the close, however, were not above 5 15c.

White Lead.—The business of the week has been very slow but now that the weather promises to be more favorable to the paint interest the belief is entertained that trade will materially improve and that the results of the season will be quite as satisfactory as they were expected to be. While white lead is slow of sale the demand for the tinting colors exceeds all expectations and the greatest difficulty the corroders now have to contend with is to fill orders promptly. Prices for white lead are without change corroders continuing to quote: 6¾c for 12 tons or over, 6¾c for 5 to 12 tons, 7c for 500 lbs to 5 tons, and 7¼c for lots of less than 500 lbs. The terms on lots of 500 lbs or over are 60 days, or 2½% discount for cash if paid within 15 days from date of invoice. To make any of the above quantities it is allowable to include any assortment of packages of white lead, red lead, or litharge, or all of these articles. Dry white lead in kegs is quoted at the same prices as in oil but in barrels a reduction of ¼c per pound is made. No pre-payment of nor allowance for freight is made and there are no rebates.

Litharge.—There is only a moderate demand, but prices are unchanged. We quote 6¾@7¼c for powdered, 5¾c for ordinary, and 6c for double refined glass makers'.

Red Lead.—Business is only moderate, but the market is firm at previous prices.

Orange Mineral.—There has been very little improvement in the demand, business being almost exclusively of a jobbing character. The market, however, is firm and prices are unchanged at 8¼@8¾c for domestic and 8½@9c for imported as to quantity and quality.

Oxide of Zinc.—The manufacturers of the American oxide are busily engaged in filling orders, and report a very fair demand for current delivery. Price are firmly maintained at 4½@5c as to quality and quantity. Florence zincs are selling well, and prices are sustained at the following rates: Red seal 6¾c, Green seal 7c less the following discounts, 10 barrels to be shipped in one lot, 1%; 25 barrels to be shipped in one lot, 2%; 100 bbls to be shipped in one lot, 4%. For French zincs there is a fair demand and prices are firmly held at the following rates: in bbls of 220½ lbs, 7½c for dry Antwerp red seal, 8¼c for dry Antwerp green seal, 8¾c for dry Paris red seal, and 8¾c for Paris green seal. The following discounts are allowed to large buyers of one or assorted grades: Ten-bbl lots, 1%; 25 bbls, 2%, and 50 bbls, 4%; all 30 days. No discount is allowed on less than 10-bbl lots. For these zincs ground in poppy seed oil, the quotations are 10½c for less than a ton of red seal in drums, and 10c for a ton or over; 11c for less than a ton green seal, and 10½c for a ton or over. The price in cans is 10½@10¾c for red seal, and 11¼@11¾c for green seal.

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Dry Colors.

Prussian Blue.—There has been a fair demand for this season of the year in progress during the week under review. At the close, however, there was rather more inquiry for goods to be delivered after the opening of the incoming mouth. Values remain steadily at prices ranging from 33@38c for the higher grades as to quantity and seller.

Ultramarine.—Trading has been of the usual dimensions since our last, with several sales reported of the better grades at unchanged figures.

Sienna.—Only the usual jobbing demand is reported for spot goods, There is, however, more inquiry for lots for future delivery with sales of several small lots reported at current prices.

Chrome Green.—The past few days of pleasant weather has revived trade to a considerable extent. Orders for delivery next month have come in quite freely, thus giving rather an active appearance to the market. There is no change in the position of Paris green; manufacturers are all waiting for the "bugs to thaw out" before beginning operations.

Carmine.—There is the usual demand for small quantities, but beyond this little can be said. Prices are steady at $3 10@3 20, as to quantity and style of package.

Venetian Red.—The bulk of the trade passing is for goods to be deliveried during the next three months, beyond this trading has been light. Sales are reported of 200 bbls for future shipment at prices ranging from $1 25@1 35 as to make, quantity and date of shipment, also jobbing lots from store at $1 40@1 50 as to make, quantity and holder. Domestic makes are selling freely even though competition is sharp. Several sales are reported at $1@1 05 as to grade and quantity, though it is reported our inside figure can be shaded for some makes.

Vermilion.—While the market has been quiet during the week, there has however been more inquiry the past day or so, especially for the higher grades, all of which is satisfied at combination prices. American and artificial vermilion are moving freely at unchanged prices.

Metallic Paints.—There has been during the past week or so an increased demand for this grade of paint. Several large orders have been placed for future delivery at prices ranging from $21 50@24 per ton as to quantity, make and place of delivery.

Miscellaneous.

Barytes.—The improvement noted in our last shows no abatement. Grinders are drawing so freely upon spot stocks that they are about exhausted; consequently those grinders who have not contracts to depend upon are experiencing considerable difficulty to secure stock enough to keep them running. There have been several orders booked for forward delivery of domestic No. 1 at prices ranging from $17@18, and No. 2 at $16 per ton, as to quantity. Foreign grades of prime quality are scarce, and held steady at $20@21 per ton, as to quantity and date of delivery.

Chalk.—No change in the position of this article since our last. Buyers being well stocked, they are not inclined to purchase further stocks unless low prices are named. Nominally they are quoted at $1 35 for steamer and $1 90 for sail shipments.

China Clay.—The demand has been rather quiet for spot goods, though for shipments on way and forward there is an improved demand, as ocean freights, are tending upwards. Sales are reported of 100 tons to arrive at prices ranging from $13 00@18 00 per ton, as to grade, quantity and date of shipment. Southern clay is selling freely at $9 00@9 50 per ton, as to quantity.

Talc.—Rather more demand in a jobbing way for both French and German for forward delivery at prices ranging from 1¾@1¾c as to quantity and possition of goods. Domestic is quiet, though steady at ¾@1¾c as to grade and quantity.

Terra Alba.—Since our last report there has been a small arrival of 50 bags No. 1 French, as sample by the way of experiment all of which, however, does not promise as being a "blooming success" owing to its absorbing qualities. There have been sales of 100 bags No. 1 French at 75@80c, and 50 bags English at 70@75c as to quantity, No. 2 American is selling freely at 45@50c as to quantity and holder.

Whiting.—Only the usual jobbing demand is reported for spot delivery. The demand from the West has not as yet opened though several of the large buyers are looking around for cheap lots as well as low canal freights. Sales are reported of 500 bbls common at 35@40c and 600 bbls gilders at 45@50c, as to quantity and make. Paris clifstone white is meeting with the usual jobbing demand, and at prices ranging from 95c@$1 10, as to make, quantity and holder.

Glue.

Glues sympathize with the general dulness in other lines of business, but there is, comparatively, a fair amount of trade, though no large transactions as there were at this season last year. The inquiries are mainly for good stock, such as medium grades of hide glues—particularly white hides ranging from 12@14c. Brown glues of this range and lower grades are abundently offered by makers, but find no buyers, there being a surplus of last season's in the hands of dealers who are all anxious to dispose of them at cut figures. A notable feature is the lack of inquiry for common glues, of which very important sales were made last spring at fair prices, with every prospect of a scarcity for the present time. The contrary has occurred; there is a good supply of cheap goods, ranging from 5@6c. White pig glues are in fair demand and sell at good figures, 10@12c, according to quantity. Following are the average quotations for large lots: White hide, best, 17@20c; white hide, fine, 14@16c; white hide, good, 12@14c; white pig, firsts, 11c; white pig, seconds, 10c; brown hide nominal; common, nominal.

Varnish Gums.

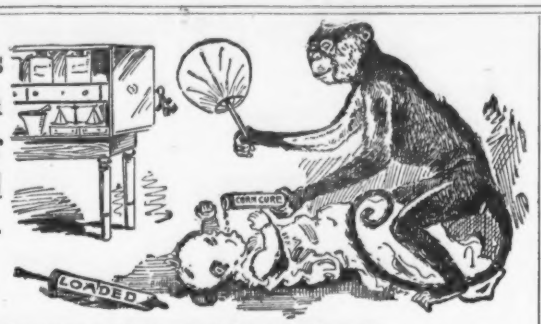
There is a fair jobbing demand but we hear of no important business. Stocks are well under control, the deliveries on contracts closely absorbiug the supply. There has been no change in quotations. The Walker Gum Company writing us from Aukland under date of the 26th ult say:

"The market has been brisker during the month with slightly higher prices owing to a more general demand. E. C. was weak during the beginning of the month but has since become firmer at old prices. We quote: Poor ordinary, 30@34s; Fair, 34@36s; good. 38@40s; East Coast, 69@70s; rescraped steady, 85@90s; clean brush, (less demand), 55s; poor brush (Ditto), 26@28; clean chips, 50@52s; ordinary chips, 40@42s; common, 10@12s. Stock in Aukland January 30, 1892, 942 tons; supplies to date, 589 tons; shipments, 1,531 tons. To New York, 190 tons; to London, 270 tons; Total, 464 tons Stock in Auckland this date. 1067. The E. Vernon is due to load for New York. The Leocadia is on berth for London."

Glass.

Window Glass.—The market seems to be in a transition state. The importers have been considering a new price list that would make the long prices a quarter to a third less than the old list and we understand that they have practically agreed upon such a list. It rests with Boston and Philadelphia whether the new prices will be adopted but it is scarcely probable that either of those centers will interpose an objection to the list. Therefore we feel safe in saying that at the expiration of a week or ten days the new list will go into effect and matters pertaining to prices will thereby be materially simplified. In the meantime the market is very quiet; prices are merely nominal. As soon as the new list on imported glass is published the American manufacturers will adopt it and make their discounts accordingly. During the past week the demand for American glass has been rather light and prices have been largely nominal. Since writing

Our processes are different from any other, our own invention and improved annually



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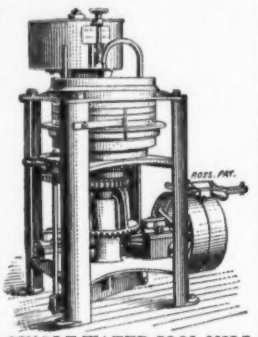

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the above, we understand that the Boston importers have declined t ratify the new list, and should this prove to be true it will throw the matter back into the same condition as that existing before the revision was undertaken.

Plate Glass.—The demand has been somewhat better and the market is firmer though as yet there has been no quotable change.

Chicago Paint Market.

[Special to the REPORTER.]

Pig Laad.—Trade for the week has been quiet, and brokers do not look for much immediate improvement in the situation. There seems to be no increase in the output of either ore or bullion, and the Idaho smelters continue closed down. So far as this market is concerned, the week opened at 4c, but 3 95c is the best figures obtainable to-day. Business has beening confinee to the sale of some 700 tons, which changed hands privately. There is little or no demand at the present writing.

White Lead.—Corroders are busy, but the weather has interfered with consumptive inquiry. Orders have been accumulating, however, and the market by no means lacks activity. Jobbers do not manifest much interest in urging sales, and a considerable proportion of them are apparently content to sell without profit to themselves.

Dry Colors.—A good inquiry prevents cutting, and the general list is firm. No particular pigment is in special request, but the leading colors are moving steadily. More or less gossip is heard as to the present and prospective status of Paris green.

Mixed Paints.—The situation has undergone no particular change dur- the past six days. The old-time features of uniformity in grades and prices are as pronounced to-day as they were a year ago.

Window Glass.—Stocks in the hands of Western middlemen seem to be ample. Perhaps for this reason, schedule prices are not being absolutely maintained. Stripped of all verbiago, the situation is by no means encouraging to manufacturers.

St. Louis Paint Market.

[Special to the REPORTER.]

White Lead.—Corroders claim that their orders in hand are beyond the average of former seasons and that there is no longer a doubt that the Spring trade of 1892 will eclipse all previous seasons. Quotations are rigidly adhered to on all sides and the apprehension felt some time since, regarding the probable enforcement of a lower schedule of prices has finally died out. Red lead and litharge are meeting with the usual demand.

Dry Colors.—In this department a stationary condition of business has been experienced this week, owing to the recent bad weather, but towards the close considerable activity was apparent, disclosing the readiness of the consuming trade to inaugurate an early season.

Mixed Paints.—Manufacturers and dealers alike are to a great extent waiting for the development of the boom which has been predicted for ready made paints, but up to this time the movement has not fully reached their expectations. Large stocks of an improved quality of goods are ready to be distributed on demand.

Pig Lead.—The market for pig lead has been in an unfavorable position this week, from the standpoint of holders, and with the exception of a few transactions at $3 92½@3 95 since the last report, sales have been quite uniform at $3 90 per 100 lbs, and a dull tone has pervaded business throughout. The following figures make a comparative showing of the movement of the metal: Receipts this week, 34,463 pigs; last week, 33,355, making a total of 363,005 this year to date, as against 380,883 during the corresponding period in 1891. Shipments from this market compare 21,370 pigs this week, with 20,442 last week.

Lead Ore.—The production for the week was extremely light, by reason of continued unfavorable weather, and the market displayed but little animation. The price of the mineral declined one dollar per ton, and is now quotable at the mines at $46. The value of the combined output of lead and zinc ores this week at the Southwest Missouri mines amounted to only $44,463 56.

Frosted Glass.

We find the following item in one of our technical exchanges:

"A new Parisian industry is the manufacture of hoar-frost glass, which is covered with feathery patterns resembling those naturally produced upon window panes in cold weather. The glass is first given a ground surface, either by the sand-blast or the ordinary method, and is then coated with soft varnish. The varnish contracts strongly in drying, taking with it the particles of glass to which it adheres, and this repoduces very accurately the branching crystals of frostwork. A single coat gives a delicate effect, and several coats yield a bold design."

Concerning which we may state that substantially the same product has been manufactured in this country for several years by a similar procedure. The glass in not ground (or, at least, need not be) in advance, and instead of using a varnish, ordinary glue is employed, which, in drying, splits off irregular patches of the glass surface in the most surprising way, giving rise to most charming frosted effects of infinite variety. Where a "flashed" glass is used for the purpose (that is, a colorless glass having a superficial thin layer of colored glass on one side), the effect of the tearing loose of the colored layer in some places and not in others, enhances the beauty of the resulting frosting.—*Exchange.*

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All Oils Guaranteed Strictly Pure. All Boiled is Kettle-Boiled.

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PURE COLORS and other SPECIALTIES.

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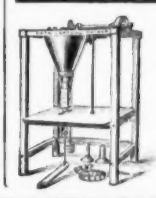

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Send for catalogue Mixing machinery.

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LARGEST MANUFACTURERS of Transposed, Refined and Off-Color

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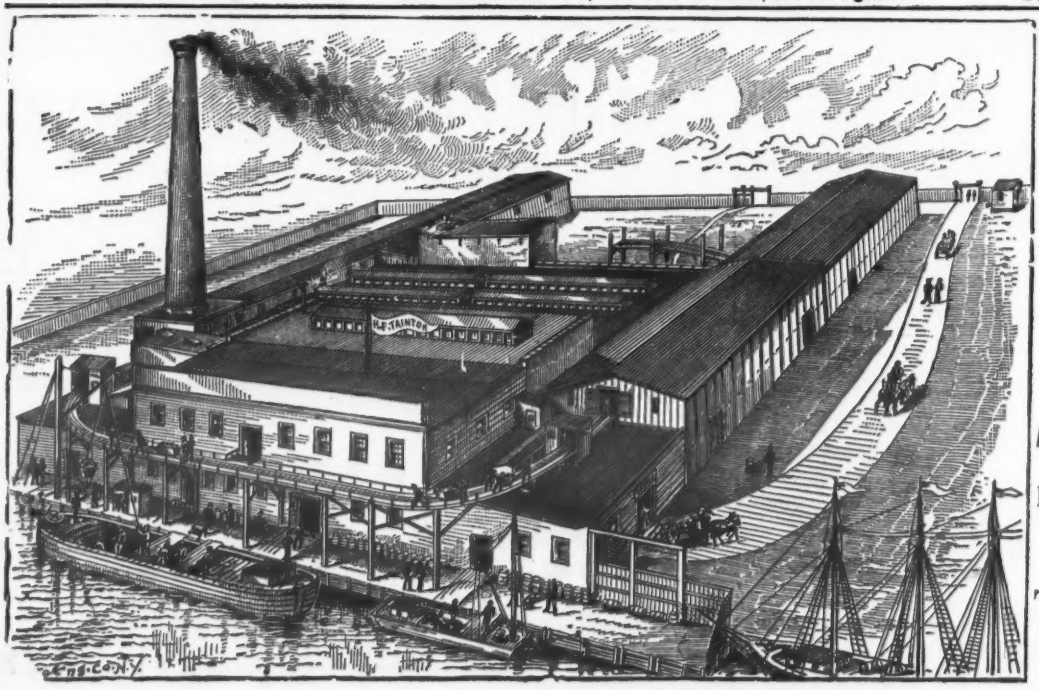
In the United States. Grinders and others supplied with Selected, Run of Mines, or Off-Colored Ore. in any quantity. S. P. WETHERILL CO., New York & Phila., Eastern Agents. Samples and Prices on Application.



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See Page 15

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DRYER, ALL GRADES

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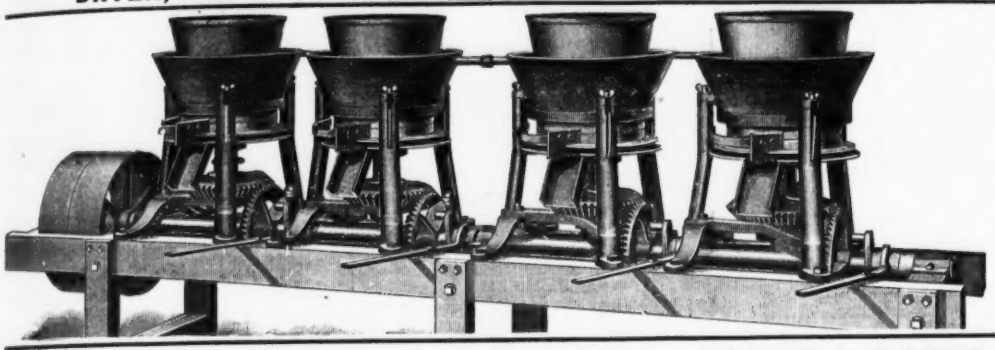

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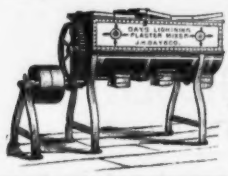

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SAVES YOU 50%

OIL MARKET

Note—*Our prices are for large lots except when otherwise specified, and buyers of small quantities must expect to pay an advance on these figures.*

Complete prices current will be found on page 18.

SATURDAY EVENING, March 26, 1892.

There are evidences of an increasing demand, and during the past week general trade has been quite brisk, although it has been almost wholly of a jobbing character. A firm feeling prevails throughout, as holders, believing that stocks in the hands of distributors are small, look for a largely increased business later on and as a rule are not disposed to shade quotations.

Vegetable Oils.

Linseed Oil.—The situation remains practically the same as at the date of our last. It is true that the demand has been rather slack, but that is attributed in a large measure to the extremely unfavorable weather that has visited all sections of the country. So far as prices are concerned the feeling is firm. City crushers will grant no concessions and on out of town brands the recent advance is generally observed. There is some out of town oil that might be bought at 36c, but the quantity is not large and we understand that the brands offered at such a figure are not particularly attractive to buyers.

Cottonseed.—While the general appearance of the market is dull there is nevertheless a quiet and steady movement which brings the aggregate of business done up to fair proportions. There has also been a moderate movement for export and a large sale of several thousand barrels of off summer yellow is reported as having been made, part for export and part for home consumption by soap makers, at a price not made public. The general belief appears to be that the price of oil is cheap and that therefore a better demand will soon be developed. The difference in the price of prime and off quality of both refined and crude is smaller than usual, and while 28½c, is the market price for prime, in order to market a large quantity the holder would probably be obliged to accept 28c, which is the figure being paid for off quality. The situation in the South shows no change. Our correspondent at New Orleans wires us as follows: "No change in price since last report. The oil market is dull and sluggish at last week's prices. Mills are closing operations for the season." The sales during the week embrace the following: 400 bbls prime yellow at 28⅛c, 150 bbls prime crude at 24½@25c, 200 bbls off yellow at 28c, 250 bbls prime yellow at 28¼c, 150 bbls prime crude at 25c, 200 bbls prime yellow at 28c, 100 bbls prime crude at 25c; 250 bbls prime yellow at 28⅜c, 100 bbls off yellow at 28c and 60 bbls white at 29c. The market closed quiet at 28⅛c for prime and 28c for off quality; prime crude at 25c and off at 24@24½c. While the market may be called steady at these figures, any pressure to sell would necessitate the acceptance of a fraction less. On the other hand an increased demand would stiffen the market, although the supply is large.

Exports of cottonseed oil from New York by countries:

	For week ending Mar. 24, 1892. Gls.	Since Sept. 1, 1891. Gls.	Same time last year. Gls.
Africa	....	....	....
Argentine Republic	....	8,851	10,938
Australia	....	3,670	9,300
Austria	2,000	434,113	458,737
Belgium	1,296	40,470	36,466
Brazil	1,833	132,491	39,044
Br West Indies	50	10,153	49,227
Br Guiana	....	5,266	6,869
Canary Islands	....	....	500
Central America	....	....	1,392
Chili	....	....	50
China	....	....	....
Cuba	....	2,616	2,000
Dan West Indies	....	....	3,444
Denmark	....	....	1,224
Dutch West Indies	....	590	....
Ecuador	....	....	150
Egypt	....	....	....
England	2,713	397,574	829,840
France	38,118	1,969,280	1,049,829
French West Indies	....	17,154	28,738
Germany	7,500	314,052	37,410
Greece	....	....	....
Hayti	....	250	400
Ireland	....	2,536	....
Italy	....	529,442	284,729
Japan	....	....	....
Mexico	927	143,319	35,252
Netherlands	77,614	1,843,961	408,429
New Zealand	....	....	600
North America	....	20,823	2,749
Norway & Sweden	....	5,143	....
Peru	....	....	960
Philippine Islands	....	....	....
Porto Rico	....	1,350	200
San Domingo	....	962	500
Scotland	....	18,851	32,535
Spain	....	8,000	....
Turkey	....	2,484	....
U. S. Columbia	....	1,243	1,200
Uruguay	....	600	50
Venezuela	....	1,975	9,200
Total	132,051	5,811,527	3,305,003

Exports of cottonseed oil from New Orleans by countries:

To	For week ending Mar. 21, 1892. Gls.	Since Sept. 1, 1891. Gls.	Same time last year. Gls.
Austria	....	265,000	....
Belgium	....	132,500	15,000
England	....	....	350,000
France	....	173,450	1,435,000
Germany	37,500	105,000	142,150
Gibraltar	....	182,350	590,500
Italy	....	972,250	321,700
Mexico	....	....	....
Netherlands	....	1,254,000	465,000
Portugal	....	....	....
Spain	....	....	....
Total	37,500	3,367,050	3,329,400

Exports of soap stock from New Orleans by countries.

To	For week ending Mar. 21, 1891. Bbls.	Since Sept. 1, 1891. Bbls.	Same time last year. Bbls
Belgium	....	....	....
Cuba	....	....	....
England	....	2,346	7,681
France	....	....	....
Germany	....	....	....
Italy	....	880	1,550
Mexico	....	150	10
Spain	....	....	....
Total	....	3,376	9,241

Cocoanut Oil, &c.

Ceylon Oil.—The market both for spot as well as for future shipment is easier. Trading, however, has been light, only small jobbing orders being the order of the day. Sales are reported of 30 tons in lots from store at 5 45c@5 50c as to quantity and style of package. Future sail shipments are now quoted at 5c, but buyers are not disposed to go forward at this

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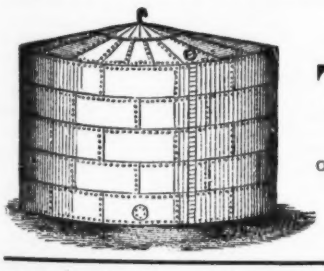
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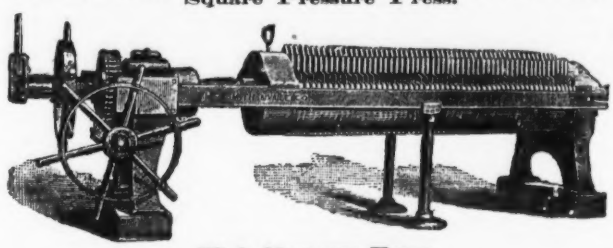
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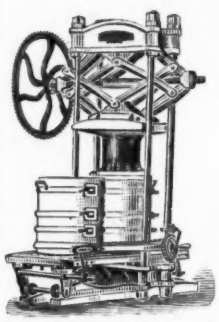
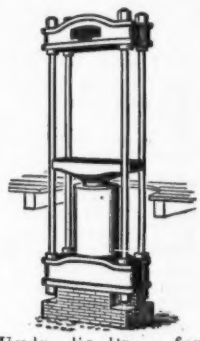
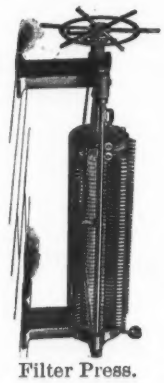
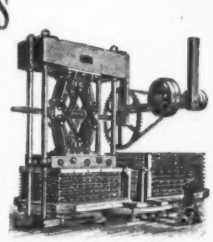

Two Curb Double Platform Press.

Hydraulic Press for General Use.

Filter Press.

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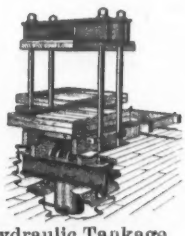
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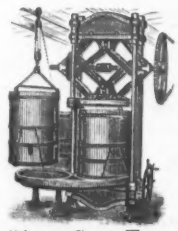
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figure. Cochin oil is jobbing slowly at 6¼@6½c on the spot, while from vessel due 6c is named.

Olive Oil.—The stock of prime oil on the spot is getting quite scarce, for which full prices are demanded. Several small sales are reported on the spot at 62c, while for April and May shipments 58c is asked, and for nearby vessels 60c is lowest named. Olive foots are dull at 4½@5c for spot and 4¼@4½c for shipments as to position of goods.

Animal and Fish Oils.

Cod Oil.—There has been no improvement in the demand, buyers taking only what they have immediate use for, and their requirements just now are small. The limited supply keeps the market firm, and we repeat our quotations of 42@45c for Newfoundland, and 38@40c for domestic, as to quantity and quality.

Lard Oil.—The demand from consumers shows no abatement, and as pressers have no surplus stock the market remains very firm. For prime city brands 57c is the lowest price acceptable, but choice Western makes are offered here at 55c in a large way and 56c in jobbing quantities, at which figures sales have been made during the week. The low grades are in fair request at steady prices.

Menhaden Oil.—The lack of stock on the spot and the high prices ruling here have caused buyers to turn their attention to European sources of supply. Consequently Glasgow merchants have of late been doing a good business, at a fair profit, in making up for the deficiency in this market. With no duty to pay and a fairly ready sale for their product, the Japanese have been sending large quantities of fish oil to Glasgow with the result that it has, temporarily at least, taken the place of the higher-priced menhaden oil. The consequence is that no small proportion of the stock of the latter which was sent over there early in the season, remains unsold and now that this market is practically bare of supplies, and buyers are prepared to pay comparatively high prices, it is being sent back here There are now on the way from Glasgow to this or other American ports some 3,600 barrels, which were sold for American account, we understand, at 31c, and it is believed that more will follow. So far as the consuming demand is concerned there is little to encourage manufacturers. The demand from the leather trade has been somewhat better of late but general trade is far from active. Prices, however, are unchanged and the market may be written firm. The hearing on the Lapham bill has been completed and after due deliberation a majority of he Marine and Fisheries Committee has decided that the measure would be unconstitutional. The fish oil interests now base their hope upon the result of the minority report, believing that it has a just claim to consideration that will be given due weight by Congress. A dispatch from Washington this morning states that Mr. Lapham has introduced an amended bill providing that menhaden and mackerel may be taken with purse seines by citizens of the United States in all navigable waters within the jurisdiction and control of the United States, where the tide ebbs and flows, so far as the United States has the right to regulate the rights of fisheries therein, any State law or usage to the contrary notwithstanding.

Neatsfoot Oil.—The market is firm and prices are unchanged. There is a very fair demand but it is confined almost entirely to jobbing lots. We continue to quote 50@55c for prime, 42½@45c for No. 1, and 37@40c for No. 2, as to quality and size order.

Sperm Oil.—The demand for the manufactured oils continues light but prices are unchanged. Crude has been exceedingly quiet in New Bedford but holders still firmly quote 73c.

Red Oil.—There has been a fair demand for saponified and we hear of sales of twenty carloads at 4½c per lb. There has also been a considerable business in elaine, buyers taking advantage of the very low prices, in anticipation of an advance on account of the increasing export demand for tallow which has recently set in.

Tallow Oil.—A very good business has been done since our last and a firmer feeling prevails, though prices are not quotably higher. We quote prime at 45@50c; No. 1 at 40@42c and No. 2 at 35@37c.

Whale Oil.—The manufactured oils are extremely quiet, but holders are not disposed to grant concessions and the market closes firm. For crude there is no demand and the quotation of 45c, while firmly adhered to in New Bedford is entirely nominal.

Mineral Oils.

Black Oil.—There is an increasing demand for 25-30° test and higher, but so far business has been largely of a jobbing character. For the low cold tests there is no inquiry whatever.

Neutral Filtered Oils.—The demand has improved somewhat, but the market still has a quiet appearance However, prices are generally well maintained.

Paraffine Oils.—There is not much improvement to note in the demand for these oils. Buyers' wants appear to be light, and they show no disposition whatever to anticipate their requirements. Prices are without change.

Cylinder Oils.—The demand in a jobbing way is fair, but large buyers are conspicuous in the market by their absence. There has been no change in quotations within the week and none is expected.

Oil Cake, Meal, Etc.

Linseed Cake.—The market has been very quiet and prices are entirely nominal.

Linseed Meal.—The demand is fair but there is no particular activity as most buyers have supplied their wants for the season.

Cottonseed Meal.—There is nothing new to report. The demand is light but prices are maintained.

Wax Lard, Tallow, &c.

Paraffine Wax.—There has been a very fair business in progress but the recent reduction in prices does not seem to have increased the demand. There have been no further changes in prices for refined.

Lard.—The market has declined during the week and very little business has been done. At the close prime western was quoted at $6 52½c on the spot and prime city 6c, nominally. Stearine is lower at 7@7½c as to package.

Tallow.—The market has been easier and the close was at 4¾c, with very little doing.

Whalebone.—Since we last wrote there have been sales of 4,000 lbs Arctic, which takes all that was available at $5 75, and the price has been advanced to $5 80. All the trade bone on the spot, amounting to 6,000 lbs, has been taken for export at $5 25.

Boston Oil Market.

[Special to the REPORTER.]

Linseed.—There is a very good demand for linseed oil, a fairly active trade being noted for the week. The market is steadily held. Buyers exhibit a disposition to take oil promptly to the full amount of their contracts, and there is very little holding back. Carload lots are held at 37c, with the card price at 39c.

Lard.—There is a dull and quiet request for lard oil and the market is ruling quite easy, but at the same time lard itself is very firmly held. Prices here are as follows: Eastern prime, 60@63c; Western extra, 57@58c; extra No. 1, 51@52c; No. 1, 41@42c; No. 2, 39@41c.

Sperm.—There is no real change to repost in sperm oil. The demand, which is small, does not admit of any change in prices, and the market continues very quiet at: crude, 72c; natural winter, 77@78c; bleached winter, 80@83c.

Whale.—Whale oil shows no change and the market is precisely in the same position as it was a week ago at this time: Crude, 49@50c; natural winter, 53@56c; bleached winter, 59c; extra bleached, 60@62c.

Cod.—The market for cod oil holds firm, and there is a very fair demand at: Bank and straits, 35c; Labrador, 40c; Newfoundland, 42c.

Menhaden.—There is a very good demand for menhaden, and the market is well held in a steady position, with prices quoted as follows: Crude, 35c; light pressed, 36@37c; extra bleached, 40@41c; bleached winter, 38@39c.

Chicago Oil Market.

[Special to the REPORTER.]

Linseed Oil continues very firm at 36c; in fact, the market is so strong at those figures that not even any rumors of cutting are heard. Nevertheless, there does not seem to be much inquiry for round lots, although there is a fair consumptive demand for the season, particularly in view of the discouraging weather prevailing throughout the Northwest. The market seems to be tending upward on purely natural causes. Seed is low, cake is declining, and the demand is bound to appreciate as the season advances. In fact, it is not easy to see how producers are making as much money to-day, with oil at 36c and cake at $18 50, as they were when they were selling oil at 32c and getting $23@24 for the "bye product." Some sort of a temporary truce has been patched up, by way of mutual self-protection, between contending Western factions.

Flax Seed.—A comparative statement of the total movement of seed at this point for the past six days, the week preceding, and the corresponding period of last year is given below; it is compiled from official statements of the Secretary of the Board of Trade and the figures have reference to bushels:

	Receipts.	
Week ending	1892.	1891.
March 23	124,792	61,496
March 16	168,657	62,708
	Shipments.	
Week ending	1892.	1891.
March 23	68,494	47,571
March 16	109,868	75,058

As reported by the inspector, stocks at the beginning of the week showed an increase of 18,117 bushels (0·4 per cent.) as compared with those of the week before, and an appreciation of 2,467,729 bushels (187 per cent.) over the visible supply of a year ago. Of the 3,786,121 bushels in public elevators about 2·4 per cent. are of a quality below contract grade, as against 2.3 per cent. a week ago and 0.6 per cent. In addition to the figures given above, which relate only to public storage receptacles, there remain afloat in the harbor awaiting the breaking up of the ice at the Straights 300,739 bushels, making the total quantity in sight 4,086,860 bushels. From the same official source comes the statement that this week's inspections in have aggregated 143 cars of No. 1, 8 of rejected, and 3 of no grade. The total—154 cars—is 107 cars less than last week's 261, and far in excess of the 80 cars which constituted the comparatively beggarly record of the same week of 1891. As regards quality, 7.5 per cent. of this week's arrivals have been of inferior grades, as against 9 per cent last week and 2.5 per cent during the same week of last year. As compared with the 101,896 bushels inspected outlast week, the outward movement for the past six days has been light, footing up only 35,259 bushels, or about 130 cars less than that of the preceding week. It has, however, been confined entirely to contract grade, while of last week's withdrawals nearly 12 per cent. were of lower quality.

The dullness which formed such a prominent feature of last week's market has been yet more pronounced this week. Cash No. 1 seed opened at 96½c, or about ½c lower, but gradually improved until it touched 98⅛c, closing to-day at 98c. Reported sales aggregate 85 cars of No. 1, 6 of rejected and 2 of no grade—in all 93 cars as against some 153 cars last week. The range has been 96½@98⅛c. as against 96½c@$1 01½ the previous six days, and $1 10½@1 20 during the corresponding week of 1891. There have been light sales from store, at about ½c below "track" seed, while Southern flax sold at ½@1c under that from the Northwest.

The speculative market, while it shows a falling off in the total volume of sales, exhibits a recovering in tone, as compared with last week. This statement is equally true, as regards both May and September, the only two features which have attracted any notice. While total sales of May seed on the floor foot up only 76,000 bushels (as against 33,000 bushels last week and 212,000 bushels the week before), values have advanced from 97⅜@99⅛c, to-days market closing at 98⅞. As in the case of May seed, September delivery shows a decline in sales and an improvement in quotations. Transactions foot up about 55,000 bushels, as against 87,000 bushels last week and 131,000 bushels the week before. Yet prices have steadily tended upward. Opening at $1 03, this future has steadily advanced, until it reached $1 04½, and closed to-day at $1 04. Much of the business done in a speculative way has consisted of exchanges of May for September seed (in all some 160,000 bushels) at 5@5¼c premium for the latter.

A careful and painstaking inquiry has resulted in obtaining the following figures regarding the supply of flax at the chief centres of accumulation in the West: Total visible stocks at Chicago, Duluth and Minneapolis, 4,598,103 bushels. In this connection also it is of interest to state that official figures show the total exportation of flaxseed from the Chicago customs district from January 1, 1892, to March 12, 1892, to have been 1,940,344 bushels as against nothing last year. To-day's trading on 'Change has been characterized by moderate offerings of cash seed, with a fair demand. May "longs" have evinced a disposition to sell, or change over to September, the result being a closing of the former at the inside (98⅛c) and of the latter at the outside ($1.04½).

Oil Cake.—A yet weaker feeling is to be noted. Cables from all points in the "U. K." indicate a slight decline for spot and an indisposition to buy deferred deliveries, even "prompt shipment" apparently falling under the ban. To-day's indicate about £7 as the price for cake capable of immediate delivery, with early April nominally £1 lower, but in on request. The figures last quoted would scarcely net over $18 50 here, yet holders quote from $18 75@$19. The week's exports from Chicago were 703,087 lbs; exports since January 19,886,819lbs., as against 6,105,795 lbs. during the same period of 1891. At least one large mill is marketing its out put in the East. Still, the result of this state of affairs—considered at a whole—is not to stiffen the domestic market, although meal seems to be moving steadily into consumption at about $20.

Oleo Oil.—No improvement is to be noted in the local market. Prices continue low, the demand tame, and business dull. Oleo-stearine is quoted to-day at 6¼@6½c. On the other hand, melters appears to be encouraged by the reported condition of affairs in Holland. Opening firm at last week's closing (52@52½fl) prices at Rotterdam have gradually, but steadily, advanced, to-day's cables reporting sales of extras at 59fl, a net gain of about 5@6fl. Medium grades are quoted at from 46@49fl, while inferior brands sell slowly at 30@31fl. Sales for the week estimated at about 7,600 tcs against some 6,700 tcs last week. This has somewhat reduced stocks of oleo, while neutral lard is somewhat more scarce and rather higher. Exports for the week have been about 38 per cent. below those of last week, the respective figures having been 3,726 and 6,031 tcs.

Lard Oil.—The easy feeling in cash lard to which reference was made a week ago still continues, to-day's market closing at $6 20@6 22½, with a weak undertone. Ruling quotations are as follows: Extra, 53@54c, extra No. 1, 46@47c; No. 1, 37; and No. 2, about 33@34c.

Neatsfoot Oil.—Trade remains rather quiet, yet a fair amount of business is reported. No further decline in raw material has occurred, and prices remain about the same. Prime is quoted at 42@43c, and No. 1 at 38@39c.

Tallow Oil.—Tallow is in fair demand, and as stocks are pretty well reduced, the market rules strong with city brands at 4¾@4¾, with country reduced at 4⅛@4⅜c. In consequence tallow oil is firmly held at 45c and a fairly active consumptive demand exists.

St. Louis Oil Market.

(Special to the REPORTER.]

Linseed Oil.—The general sentiment continues to be rather buoyant, and those having oil to sell exhibit more aggressiveness this week than usual. The trade is seemingly content to pay the current values and is not expecting to see lower quotations in the near future. Last week the market advanced so far as small lots are concerned, and a schedule went into force locally which is still prevailing, fixing 38c for lots of one to five barrels and 37c for quantities ranging from five to fifty barrels at a single purchase. In larger lots 36c is still the market, and quotations are firm at that figure. Efforts this week to buy below this limit have invariably failed. The plan of allowing a cash discount of 2 per cent. on sales of oil, which was recently inaugurated, has been quite favorably received by the trade and nearly all of the larger buyers are taking advantage of it.

Flaxseed.—The developments of the week offord additional evidence of the exceptionally strong position which flaxseed has assumed within the last thirty days. On several days no offerings at all were made and at any time holders could have realized 98c. per bushel for seed. The meagre sales reported were mainly closed at 97c and the situation continues to increase in interest by reason of the fact that it is unknown how much seed is yet in the hands of the producers. Receipts for the week show a decreasing volume, being only 5,925 bushels as against 6,550 the week

before, making a total of 98,095 bushels since January 1st, compared with 13,015 bushels during the corresponding period last year.

Oil Cake.—The demand for oil cake this week has reached a minimum level. Quotations, therefore, scarcely represent more than nominal prices and the probabilities are that liberal bidders would find crushers in a yielding mood both on cake and meal. Holders like to quote the market this week as unchanged at $20 per ton for the quantities ordinarily taken by jobbers.

Cottonseed Oil.—The universal report on this article presents a dull state of business on all grades, with a marked lack of interest for future needs. Prices are unaltered and buyers are still paying the following: Summer yellow oil, 34c per gallon; white, 35c; winter yellow, 38c and white 39c, when purchased in the ordinary quantities.

Lard Oil.—A slow movement has characterized trading in lard oils this week, caused presumably by the unsettled condition of the weather, but the reports concur in forshadowing a better result within a few days. The market is still quotable at last week's figures which are steady to-day, at 50@53c.

Neatsfoots Oil.—An encouraging demand for this product has been encountered this week, resulting in numerous heavy sales. Prices range from 37@39c for No. 1 and 44½@47c for extra.

Tallow.—This product is really firmer in consequence of a comparative scarcity coupled with a good demand. Sales were readily made early in the week at 4⅝c to 4¼c, but offerings were exceptionally light.

Castor Oil.—This staple exhibits no really new features. Crushers indicate the usual business for the several grades with possibly an increase this week in the volume of trade over that last reported. Manufacturers quote prime oil at 12¾c per lb and No. 3 at 11½c.

Castor Beans.—This commodity is lifeless, and for want of transactions the market is still quoted at $1 60 per bushel. No arrivals of beans were reported, leaving the figures given last week to be repeated to-day.

NAVAL STORES

Note—*Our prices are for large lots except when otherwise specified, and buyers of small quantities must expect to pay an advance on these figures.*

Complete prices current will be found on page 41.

SATURDAY EVENING, Mch. 26, 1892.

The market has been very dull since our last and the tendency has been in buyers favor. New crop goods are beginning to arrive quite freely at southern points and this has a depressing influence on the market.

Spirits of Turpentine.—The market has been very quiet throughout the week and closes a shade lower with the tendency downward. At the opening on Monday the feeling was steady but trading was only moderate. The quotations stood at 37c for southern and 37½ for machine made barrels, and the market remained at these figures throughout the week with tendency however, favoring buyers. There has been little or no improvement in the demand and with any increased interest prices here should advance as supplies are very light. At the close prices were somewhat nominal, and although 37@37½c remained the quotations, it was intended that bids of ¼c less would not be turned down, owing to the fact that new goods are beginning to come in at Southern points quite freely.

Rosins.—The market has been very quiet, and as the result of increased receipts at the South the feeling is somewhat easier.

SAVANNAH NAVAL STORES STATEMENT, MARCH 24.

	Spirits.	Rosin.
Stock on hand April 1..	3,902	27,648
Received to-day.....	477	1,377
Received previously....	231,997	848,295
Total.....	236.376	877,320
Exported to-day.....	....	2,000
Exported previously....	282,554	830,691
Total	232,554	832,691
Stock on hand and on shipboard to-day.....	3,822	44,629
Received same day last year	125	401

STOCK ON HAND AT

	Spirits.	Rosin.
New York, Mar. 26. bbls.	807	25,995
Savannah, Mar. 24.....	3,822	44,629
Wilmington, Mar. 25....	2,028	43,519
Charleston, Mar. 19.....	442	13,292

The statistical position of naval stores in New York to-day, as given by Messrs. Johnson, Hammond & Co., was as follows:

	Turpentine. bbls.	Rosin. bbls.
Stock reported Mar. 19 .	1,293	26,523
Receipts for the week..	757	2,267
Deliveries.....	1,243	2,795
Stock in yard March 26.	807	25,995
Transfers	256	129

MONTHLY REPORT OF NAVAL STORES.

Movement at New York, Wilmington, Charleston, Savannah and Brunswick, compiled by Paterson, Downing & Co.:

RECEIPTS SINCE APRIL 1.

New York.....	40,084	142,903	39,690	154,142
Wilmington....	57,109	262,799	65,411	329,042
Charleston.....	26,701	134,213	44,130	175,425
Savannah.....227,197		820,563	191,964	730,628
Brunswick	39,377	142,230	42,773	175,959
Total.....390,468		1,502,708	383,968	1,565.196

EXPORTS IN FEBRUARY.

New York.....	2,085	12,603	1,609	20,756
Wilmington....	....	9,018	1,530	30,330
Charleston	....	10.920	530	14,162
Savannah	5,252	59,961	3,045	74,951
Brunswick	1,374	17,608	1,075	19,985
Total.....	8,711	110,110	7.779	160,184

EXPORTS SINCE APRIL 1.

New York.....	21,004	160,134	22,784	202,411
Wilmington....	22,455	226,400	34,644	263,966
Charleston	14,149	109,281	19,163	119 334
Savannah 155,100		449,845	117,950	329,972
Brunswick	35,550	117,040	32,179	138,885
Total. 248,258		1,062 700	226,720	1,054,568

Trade Items.

Mr. D. E. Wheeler, receiver of the Standard Plate Glass Company of Butler, Pa., is in the city on business.

A. S. Rigg's tannery at Farmington, Me., was burned Wednesday morning. Loss $7,000; insurance $3,800.

The Linerusta-Walton Manufacturing Co., of New York, has been incorporated with a capital of $5,000, by C. E. Runk and others.

The large window glass factory at Spiceland, Ind., has been compelled to close on account of the failure of the natural gas supply, and 300 men are out of work.

A tank burst at the Hamilton Glass Works, Canada, March 21st, and tons of molton glass poured over the floor. The loss is estimated at $1,000. The factory will shut down until the tank is repaired.

F. E. Hern, J. H. Russell, J. H Holt and others have incorporated the Actrion Medicine Co. at Huntington, W. Va., to manufacture medicines. The authorized capital stock is $100,000.

Messrs. Bichels & Techow have succeeded to the business of the late Max Koenigsheim Mr. Emile Bichels, the senior partner, is well known in the drug trade, having for several years past had charge of the export business of Messrs. McKesson & Robbins.

Some 8,000 lbs. of gum asafœtida, which was en route to this country per s. s. Ebro to Messrs. Dietz & Hopkins, was washed overboard. Asafœtida is always shipped on deck, hence the disaster. The gum was a good London grade and had been sold to arrive.

The committee on pleasure grounds of the lower wards of Charleston, S. C., recently decided to have a phosphate monument erected on the Battery on the sight of the old music stand which was recently demolished. The work of constructing the monument has now begun. It will consist of a pyramidal mound composed of the crude phosphate rock, and when completed will stand out in bold relief before the eyes of the many tourists who have never seen the genuine phosphate as it appears when unearthed.

Mr. J. H. Hart, of J. H. Hart & Co., has returned from a six weeks' trip to the South. He reports business there as much depressed, but that the outlook is more encouraging. There will be a smaller acreage devoted to cotton this year, and the planters, he says, will go in more for diversified crops.

WANTS

SPECIALS OR NOTICES *in this column are at the rate of Two Dollars for each insertion—for eight lines or less. All over eight lines Twenty-five cents per line of about six words. The full amount in cash must accompany all orders.*

EDITOR'S ASSISTANT.

Wanted in the editorial office of a prominent journal, a young man of good general education who is thoroughly acquainted with pharmacy (graduate preferred), fond of research, and willing to learn office routine. Address with full particulars, mentioning salary expected. "QUERCUS" care of this paper.

ELECTRICAL FIXTURES.

A lot of electric light stands, sockets and shades for sale cheap; in use only a short time; can be seen at the office of this paper, 72 Willsan Street, N. Y.

FOR SALE.

Can be purchased at a reasonable figure, a new and fully equipped laundry and toilet soap factory, well located in Chicago. Capacities, 75,000 pounds per week, and can be increased with but little expense. Address, "CHICAGO," care of AMERICAN SOAP JOURNAL.

WATER FRONT AND EXTENSIVE

Buildings, near New York, for Glue, Fertilizer or Chemical Works, for sale or lease. Apply to "FACTORY" Box 1078, New York.

BINDERS

Holding One Volume (6 months) of the REPORTER will be forwarded by mail on receipt of ONE DOLLAR. They are perfectly simple, any one can use them. Address the OIL, PAINT AND DRUG REPORTER, 72 William Street, New York. A bound volume of the REPORTER is a complete history of the Paint, Oil and Drug Markets for half a year.

WANTED

Thoroughly competent man as Superintendent of a large Chemical Works; state experience and references. Address "SUPERINTENDENT" care of this paper.

WANTED

Travelers, physicians preferred, to represent manufacturing pharmacists in Ohio, Pennsylvania and New England; only those with established trade and acquaintance with druggists and physicians need apply. Address stating salary, experience, etc., "M. B." care of this paper.

WANTED

Glue salesman by Western manufacturer, one that is acquainted with Eastern trade; please give reference and salary expected. Address "GLUE" care of this paper.

CHEMIST.

Graduate of University of high standing desires a position in some branch of chemical industry; four years practical experience; qualified to do general analytical or experimental work; has made a specialty of textile coloring; salary $60 to $100 per month. Address "A. G. P." care of this paper.

TO LET.

The premises now occupied by Messrs. Stallman & Fulton in buildings 4 and 6 Gold St. will be vacated by them about March 1st. This is central location for the Drug Trade. Apply Joseph Hague, No. 4 Gold St.

PROCLAMATION.

WHEREAS we commenced the manufacture of Oil Tanks in 1873; and have great respect for age, when the scripture dictum is fulfilled, "gray hairs are honorable if found in the way of righteousness", and

WHEREAS many of the Oil Tanks and Pumps made by us during that year (1873) are still in use; and we desire to possess ourselves of these mementoes of honest manufacture. We propose to

OUT-DO ALADDIN

and offer *new for old*; and we hereby offer to give one of our new, improved measuring pumps, for every pump sold during the year 1873, returned to us, free of charges, accompanied with vouchers, certifying that the pump was bought in the year 1873, and has been in constant use since.

We know that many of our pumps are still in existence, and in use, that were made in '73; and we have several specimens. We wish to procure more, for the purpose of exhibiting them at the

WORLD'S COLUMBIAN EXPOSITION

with our exhibits. We have

Resolved to fully maintain the high quality of our manufactures in all departments, being fully convinced that good goods, like blood, will tell.

F. C. WILSON & CO.,

Mfrs. of more and better Oil Tanks & Pumps than any "Largest * * * in the U. S."

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WE WANT YOUR TRADE

WE ARE THE

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Meets and Beats all Competition! To keep pace with Linseed Oil Prices its price is Reduced 35 per cent. and quality Improved.

W. H. MACOFFIN, Philadelphia, Pa.

PETROLEUM MARKET.

SATURDAY EVENING, March 26, 1892.

A little spurt, of what in these dull times may be complimented by the term activity, took place during the past week, and somewhat relieved the monotonous stagnation which had been characteristic of the market for months. The week's transactions reached a total which "in the good old times" of speculative activity would have been a good hour's business. The increased trading was prompted by the lower prices, rather active trading taking place on the Bradford exchange, which this week appears to have governed the market values, and the drop there was quickly followed by a similar drop here, and then came buyers. The lower prices which have prevailed have been due to the decidedly bearish reports from the McDonald field whose production has been increased by the incoming of several new wells of good caliber. This wonderful field is a damper to hopes for high prices, and until it shows evidence of permanent decline, the price will probably remain low—much too low to please the producers. The increase in production has made a change in the statistical situation, and as the deliveries have kept pretty steady, the difference between runs and deliveries is not so large as it has been. The changes made in the management of the refining interest and the prominent pipe lines has been a fruitful source for discussion the past week and some effect was expected on the speculative market, but there was no evidence of such. Reports were circulated on the exchange that the affairs of the Trust showed a surplus as large as $26 000,000 over and above the capital of $95,000,000 in outstanding certificates. Part of this surplus it was said will go as additional capital to the minor companies into which the Trust has been broken, and the remainder will go as a cash return to the certificate holders. Another report was that there would be but 12 linked companies remaining when the trust had been re-adjusted. It was further said that small holders would get fractional parts of stock, but would get a certificate specifying the various amounts of stock and the companies in which they were. In this way the holder will be able to deposit this omnibus certificate in getting a loan and it will be in shape for exchange dealings. A little interest in Buckeyes was shown and two sales were reported.

The transactions during the past week show an increase over those of the previous week, the sales footing up 407,000 bbls(400,000 N. T. and 7,000 B.) against 138,000 bbls for the preceding week. The clearances of the local exchange amounted to 1,180,000 bbls, against 432,000 bbls during the preceding week. The total clearances reported for the other two exchanges amounted to 3,448,000 bbls, against 3,020,000 bbls for the preceding week. The highest price of the week was recorded on Monday, when 57¼c was reached. The lowest point of the week was 52¾c, and was touched on Thursday. The opening price last Monday was 56⅞c, and the close this noon was at 55⅝c, showing a loss of 1¼c as the result of the week's trading, while the extreme range of fluctuations for the week was 4⅜c. The highest price for Buckeye certificates was 14¾c, reached on Tuesday, and the lowest was 14½c, touched on Monday. The opening price last Monday was 14¼c and the close this noon was 14¾c, showing a gain of ¼c for the week under an extreme range of variations of ¼c.

Following is given the openin g highest lowest and closing figures for each day, in tabulated form for comparison:

	National Transit. Opening.	Highest.	Lowest.	Closing
Monday	56⅞	57¼	56⅞	57¼
Tuesday	57	57	54¾	55
Wednesday	54¾	55	52¾	52⅞
Thursday	52¾	54¼	52¾	54¼
Friday	54¼	55⅞	54¼	55⅞
Saturday	55⅞	56	55⅞	55⅝
	Buckeye.			
Monday	14¾	14¾	14½	14¾
Tuesday	14¾	14¾	14¾	14¾
Wednesday	14¾	14¾	14¾	14¾
Thursday	14¾	14¾	14¾	14¾
Friday	14¾	14¾	14¾	14¾
Saturday	14¾	14¾	14¾	14¾

The amount of daily sales and total for the week follow:

	N. T.	*Buckeye.*
Monday	20,000	2,000
Tuesday	140,000	5,000
Wednesday	105,000	....
Thursday	95,000	....
Friday	35,000	....
Saturday	5,000	....
Total for the week	400,000	7,000

The clearances at the several exchanges were as follows:

	New York.	*Oil City.*	*Bradford.*
Monday	0,000	130 000	74 000
Tuesday	60,000	56,000	10,000
Wednesday	304.000	334,000	308.000
Thursday	328,000	594 000	218 000
Friday	360,000	368,000	62,000
Saturday	128,000	708,000	86,000
Total week	1.180,000	2,690.000	758,000

Following is the range of prices of National Transit and Buckeye certificates during the corresponding week last year:

	National Transit.	*Buckeye.*
Mar. 21	71⅝@72	19¼@—
" 23	71½@72⅝	16¾@17
" 24	72⅝@73⅛	17 @—
" 25	72⅛@72⅝	17 @17⅛
" 26	72⅛@73	18 @—
" 27	— @—	— @—

REFINED AND PRODUCTS.

The demand for refined in barrels for export has been good during the past week, and rather more has been engaged for early shipment than for some time. There being no tank vessels on this side requiring cargo the total shipments do not foot up large, amounting to about 30,000 bbls. It is not often that the entire fleet of tank vessels is absent, and another week may see a number of them here to swell the requirements to large proportions. The price of barreled oil was on Wednesday reduced to 6·20c for New York loading, to 6·15c for Baltimore loading, and 6·15c for Philadelphia loading. Bulk oil was reduced to 3·70c here, 3·65c at Philadelphia and 3·65c at Baltimore. The principal foreign markets are firmer. To-day's quotations by cable were: Antwerp, 14½f; Bremen, 6·20m; London, 5½d, and Liverpool, 5⅜@5½d. Freight rates are steady at 1s 9d@2s hence to London, and 1s 9d@3s to Continental ports, as to port and vessel. Home trade lots have been in fair request and are easier on the basis of 8¼@8¼c for 150° water white, and Western at 8c.

Cases for export have been in light request, and sales of about 80,000 are reported. The price for plain tops has been steady at 7·70c. Freight rates are easy. The nominal rates for large vessels are: For Java, 24@25c; Japan, 21@22c; Yokohama, 22@23c; Calcutta, 13@14c; Smyrna, 22@23c; Bombay, 16@17c; Rangoon, 15@16c; Singapore, 21@22c; Hong Kong, 20@21c, and for Shanghae, 26@27c.

Crude for export has been in light request, and sales of about 10,000 bbls are reported. The price has been reduced to 5·50c. Bulk is quoted at 3·00c. Washington crude is quoted at 5·00c in bbls and 2·50c in bulk. Cases for export have been neglected and no sales are reported.

Prime city naphtha has been reduced to 5·25c. For export no sales are reported.

Western residuum is nominally quoted at 4@4¼c f o b. Barrels are quoted at 6¼@6¾c. Lima residuum is offered at 5¼@5¾c in barrels.

Closing Quotations.

CRUDE.

National Transit Certificates	₱ bbl	55⅛@55⅝
In bbls	₱ gal.	5·50
In bulk		3·00
In cases		7·70
Washington crude in bbls		5·00
" " bulk		2.50
Residuum, bbls., for export		6¼@ 6¾

REFINED, FOR EXPORT.

Cargo lots, for export	₱ gal.	—@6·20
Philadelphia loading		—@6·15
Baltimore loading		—@6·15
In bulk		3·70

HIGH TEST OILS—JOBBING LOTS.

110 fire test, S. W	₱ gal.	7¼@ 7½
120 fire test, S. W		7¼@ 7½
130 fire test, S. W		7¾@ 7¾
150 fire test, W. W		8¼@ 8¼
300 fire test		9½@ 10

REFINED IN CASES, 110 FIRE TEST.

Two-five, low screw, cargo lots	7·70
5,000 to 10,000	7·80
1 000 to 5,000	7·90
700 to 1,000	8·00
400 to 700	8·10
300 to 400	8·20
200 to 300	8·30
100 to 200	8·50
Under 100	9 50

NAPHTHA AND GASOLENE.

Naphtha, c'de cargo lots, 68@72 deg.	5·25
Naphtha, crude, car lots, 68@72 deg.	@5·25
Naphtha, crude, 70 deg	6 @ 7
sweet, 62 deg	6¼@ 7¼
70 deg	7 @ 7¾
76 deg	7¼@ 8
Gasolene, 82 deg	12 @14
88 deg	14 @16
90 deg	17 @19

Petroleum Statistics.

RUNS—TOTAL AND AVERAGE.

	Day.	Total.	Av'ge.
Fri., Mar. 18	40.431	1,353,181	75,177
Sat. Sun. 19 & 20	142.685	1,495,866	74,793
Mon. " 21	85.128	1,580,994	75,285
Tue. " 22	84,040	1,665,034	75,683
Wed. " 23	82,086	1,747,120	75,962
Thurs. " 24	98,306	1,845,426	76.893

	1890.	1891.	1892.
January	2,108,248	2,859,052	2,943.665
February	2,055,424	2,345,913	2,880,238
March	2,313,189	2,519,354	.....
April	2,328,870	2,490,018	.....
May	2,378.382	2,405,079	.....
June	2,370,000	2,433,992	.....
July	2,524,206	2,393,857	.....
August	2,514,968	2,549,785	.....
September	2,584,949	2,930,152	.....
October	2,750,698	3,670,111	.....
November	2,575,941	4,058.412	.....
December	2,626,035	3,851,216	.....
Year	29,130,910	34,506,975	.....
Average	2,427,574	2,875,581	2,911,961

Buckeye.

	Day.	Total.	Av'ge.
Fri. Mar. 18	45,113	550,981	30,610
Sat. Sun. 19 & 20	32,153	583,134	29,157
Mon. " 21	36,221	619,355	29,493
Tues. " 22	40,243	659,598	29,982
Wed. " 23	40,304	699,902	30,431
Thurs. " 24	44.411	744,313	31,013

	1890.	1891.	1892.
January	683,750	1,241,154	971.607
February	622,799	1,147,947	1,008,069
March	676,175	1,255,611	.....
April	842,237	1,302,583	.....
May	887,590	1,191,147	.....
June	916,288	1,207,884	.....
July	1,105,884	1,236,291	.....
August	1,149,877	1,240,841	.....
September	1,289,577	1,252,375	.....
October	1,342,158	1,257,986	.....
November	1,215,960	1,070,131	.....
December	1,186,434	1,251,820	.....
Year	11,918,929	14,555,770	.....
Average	993,227	1,212,980	989,838

DELIVERIES—TOTAL AND AVERAGE.

	Day.	Total.	Av'ge.
Fri. Mar. 18	115,221	1,350,737	75,041
Sat. Sun. 19 & 20	80,145	1,430,882	71,544
Mon. " 21	104.157	1,535,039	73,097
Tues. " 22	66,980	1,602,019	72,819
Wed. " 23	70,433	1,672,452	72,715
Thurs " 24	97.482	1,770,294	73,762

	1890.	1891.	1892.
January	2,679,206	2,468,390	2,417,932
February	2,181.309	2,169,408	2,439,772
March	2,182,231	2,427,186	.....
April	2,346,823	2,156,632	.....
May	2,486.978	2,023,156	.....
June	2,499,538	2,128,370	.....
July	2,684,465	2,161,559	.....
August	2,642,787	2,390,127	.....
September	2,719,207	2,688,874	.....
October	2,772,935	2,783,343	.....
November	2,703,755	2,590,507	.....
December	2,729,505	2,773,529	.....
Year	30,628,739	28,761.080	.....
Average	2,562.395	2,396,756	2,428,852

Buckeye.

	Day.	Total	Av'ge.
Fri. Mar. 18	48,205	862,100	47,890
Sat. Sun. 19 & 20	44,391	906,491	45,325
Mon " 21	58,610	1,065 101	50,719
Tues. " 22	47,723	1,112,824	50,583
Wed. " 23	70,618	1,183,442	51,454
Thurs. " 24	67,512	1,250,954	52,123

	1890.	1891.	1892.
January	156,085	968,887	1,355,362
February	111,604	837,928	1,346,541
March	123,125	830,448	.....
April	115,222	836,854	.....
May	169,662	1,078,489	.....
June	207.036	923,605	.....
July	170,427	997,681	.....
August	265.074	1,166,058	.....
September	513.836	1,260,645	.....
October	723,743	1,408 343	.....
November	657,614	1,391,400	.....
December	907,548	1,474,378	.....
Year	4,120,976	13,174,716	.....
Average	343,414	1,097,893	1,350,951

CHARTERS—TOTAL AND AVERAGE.

	Day.	Av'ge.	Total.
Fri. Mar. 18	31,746	1,141,922	63,440
Sat Sun. 19 & 20	14,126	1,156,048	57,802
Mon. " 21	....	1,156,048	55,049
Tues. " 22	....	1,156,048	52,547
Wed. " 23	....	1,156,048	50,262
Thurs. " 24	31,746	1,187,794	49,491

	1890.	1891.	1892.
January	850,752	1,276,216	1,578,601
February	782.217	1,640,444	1,323,079
March	648,885	1,122,087	.....
April	1,416,460	1,295.542	.....
May	1,042,640	1,332,532	.....
June	844,711	1 414.565	.....
July	1,304,953	1,274,512	.....
August	1,479,290	1,775,967	.....
September	1.527,598	1,484,843	.....
October	1,277,757	1,581,859	.....
November	863,697	1,427,902	.....
December	1,043 371	1,693,827	.....
Year	13,086,331	17,320,296	.....
Average	1,090,527	1,443.358	1,450,840

CHARTERS FOR THE WEEK.

The total charters for refined in barrels and cases, crude in barrels and cases, naphtha, &c., during the week ending March 25, and from January 1, were as follows:

	Week.	Year.	1891.
Refined, bbls	28,900	1,094,500	1.131,600
Refined, cs	....	4,912,000	3,020,000
Crude, bbls	....	375,600	339,660
Crude, cs	....	126,000	412,900
Naphtha, bbls	....	29,200	40,500
Residuum, bbls	....	....	....
Lubricating, bbls	4,000	42,800	7,000
Barrels, cde eq	45,872	4,088,374	3,525,333

CLEARANCES FOR THE WEEK.

During the week ending Mar. 25, and since Jan. 1 the clearances of petroleum, in gallons, from the port of New York were as follows:

	Week.	Year.	1891.
Refined	4,421,818	73,771,627	64,254,563
Crude	2,629	9,679,677	7,325,005
Naphtha	201,715	2,708,325	1,534,596
Residuum	.....	50,000	....

EXPORT STATISTICS.

The following table shows the total exports from the port of New York and from the United States, reduced to crude equivalent, in gallons, for the week ending March 25; also total shipments to date, with comparisons with 1891:

From N. Y. for week ending Mar. 25	5,898,386
Total from N. Y. from Jan. 1, 1892	108,038,843
Same period last year	99,458,764
Increase	8,580,079
From U. S. for week ending Mar. 25	7,770,186
Total from U. S. from Jan. 1, 1892	158,557,063
Same period last year	142,656,471
Increase	15,900,592

TOTAL EXPORTS FROM DIFFERENT PORTS.

	1892.	1891.
New York	108,038,843	99,458,764
Philadelphia	39,917,049	37,865,343
Baltimore	38,281	4,767,216
Boston	562,890	470,708
San Francisco	.....	96,531
New Orleans	.....	....
Grand total	158,557,063	142,656,471

CAPACITY OF VESSELS LOADING.

The following table gives the capacity of the vessels loading petroleum at the ports of New York, Philadelphia, Baltimore and Boston on March 25.

	NEW YORK. Bbls.	Cases.	PHILADELPHIA. Bbls.	Cases.
Refined	74,000	1,524,000	73,800	253,000
Crude	15,500	....	5,000	....
Naphtha	7,000	....	....	....
	BALTIMORE. Bbls.	Cases.	BOSTON. Bbls.	Cases.
Refined	....	....	....	....
Crude	....	....	....	....
Naphtha	....	....	....	....

Foreign Statistics.

REFINED QUOTATIONS.

	Antwerp.	Bremen.	London
Monday	— @14⅛	6.20	—@5⅞
Tuesday	— @14⅛	6.20	—@5⅞
Wednesday	— @14⅛	6.20	—@5⅞
Thursday	— @14⅛	6.20	—@5⅞
Friday	— @14⅛	6.20	—@5⅞
Saturday	— @14⅛	6.20	—@5⅞

STOCKS, RECEIPTS AND SHIPMENTS.

The statistical situation a the seven prinpal continental ports on March 5, was:

	1892.	1891.
Stock, Mar. 5	370,626	463,344
Afloat "	116,775	292,394
Loading "	105,000	50,300
Total	592,401	806,038
Re'ts Feb. 27 to Mar. 5, '92	88,427	70,521
Re'ts July 1, '91 to Mar. 5, '92	3,276,724	3,446 187
Shp's Feb. 27 to Mar. 5, '92	64,707	68.106
Shp's July 1, '91 to Mar. 5, '92	3,769,067	3,765,030

Petroleum Charters.

Following is a list of vessels chartered and loading or to load petroleum at New York, Philadelphia, Baltimore and Boston. Quantities refined in bbls., unless stated otherwise.

NEW YORK.

Aug. 23

Fr bk Eugene, Pt de Boue, 1s 7½d 2,500

Aug. 27

Am bk Gamoyden, Tunis, 16c ..... cs 14,000

Sept 3

Aus bk Pudosa, Marseilles, 2s 6d ..... cde 3,500

Oct 5

Nor bk Etta, Baltic, p t 2,000

Oct 22

Ger sh Barbarossa, London, p t 8,500

Dec 3

Br sh Jutoepolis, Calcutta, 15½c ..... cs 100,000

Dec 8

Br sh Hilston, Calcutta, p t ..... cs 80,000
It bk Josephi, Java, p t ..... cs 25,000
Dtch bk Krimpen a d Lek, Java, p t ..... cs 40,000

Dec 17

Br sh Howard Troop, Shanghai, 29c, cs .. 80,000

Dec 18

It bk San Antonio ..... cs 3,000

Dec 26

Br sh Andelana, Shanghae, 28½c ..... cs 97,000

Dec 30

Am sh John R Kelly, Japan, 24c ..... cs 80,000

Jan 13

Br sh Eversham Abbey, Japan, 27c ..... cs 60,000

Jan 14

Am sh R L Belknap, Japan, 24c ..... cs 85,000

Jan 18

Nor bk Ovos, Montevideo, pt ..... cs 17,000

Jan 23

Am sh Thomasino McClellan, Japan, ... cs 65,000

Jan 25

Am sh Lucille, Hong Kong 23c, or Shanghae 28c ..... cs 55,000

Feb 2

Br sh Marabout, Hong Kong, 22c ..... cs 55,000

Feb 4

Nor bk Glengairn, Baltic, 2s 6d 5,000

Feb 5

Br sh Procyon, Shanghae, 26c ..... cs 80,000

Feb 6

Br sh Stanley, Japan, 23c ..... cs 83,000

Feb 10

Am sh Luzon, Shanghae, 26c ..... cs 50,000

Feb 13

Br str Port Philip, Japan, 30c ..... cs 95,000

Feb 17

Dtch bk Semper Spera, Java, 20½c ..... cs 50,000

Feb 19

Br sh Windermere, Calcutta, p t ..... cs 125,000

Feb 20

Br str Ethiopia, far East, p t ..... cs 60,000

Feb 25

Br sh ————, Bombay, 15c ..... cs 80,000
Br bk ————, Rangoon, p t ..... cs 60,000

Feb 29

Ger sh Else, Hong Kong, 20c ..... cs 50,000
Nor bk Louise, Hamburg, 1s 9d 6,00

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PHILADELPHIA
COLUMBUS, GA.
CHARLESTON, S. C.
SAVANNAH, GA.
MACON, GA.
ATLANTA, GA.
AUGUSTA, GA,
WILMINGTON, N. C.

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March 1
Am sh Isaac Reed, Hong Kong 20c...cs 50,000
Br sh Halemhurst, Rangoon, 15c.....cs 80,000
Br sh Imberhorne, Bombay, 15c.....cs 80,000

March 3
Br str Petriana, Fiume, bulk.....cde 20,000

March 4.
Br bk Beethoven, London, 1s 10½d..... 6,500
Br sh Kelat, Calcutta, pt.....cs 70,000
Br sh Falconhurst, Rangoon, 15c.....cs 80,000
Br sh Senator, Java, 20, 21 & 22c.....cs 55,000
Br sh Ambassador, Calcutta, 11½c....cs 75,000

March 5
Br sh Lizzie Ross, Bremen, 2s 1½d..nap 7,700

March 8
It bk Innocenti, Port de Bouc, 2s 3d.cde 5,000

March 9
Am sh Santa Clara, Hong Kong, 20@21c.....cs 50,000
Br sh Constance, Hong Kong, 20c.....cs 60,000
Ger bk Marie Louise, Copenhagen, 2s.. 5,500

March 10
Br sh Callirrboe, for East, p t.....cs 70,000
Br str Monmouthshire, China and Japan, p t.....cs 60,000
Br sh Servia, London, p t.....lub 8,300

March 11
Br bk Jos Stafford, La Rochelle, 2s 3d .....cde 7,500
Ger sh Margarethe, Marseilles, 2s 1½d .....cde 8,500
Br sh Loudon Hill, Calcutta, 11c.....cs 80,000
Nor bk Tordenskjold, Dublin, 2s..... 8,000
Nor bk Preciosa, Baltic, p t..... 4,500
Br sh Lord Lindhurst, Calcutta, p t..cs 48,000

March 12
It bk Gloria, Naples, p t..... 2,000

March 14
Ger sh Anna, Copenhagen, 1s 10½d..... 7,500
Nor bk Christine Edela, Liverpool, 2s 2d.....nap 5,500

March 15
Am sch H W Lewis, Rio Grande do Sul, 33½c.....cs 12,000

March 16
Br str Humber, China & Japan, p t...cs 50,000

March 17
Am bk Fannie Skolfield, Saigon, 20c..cs 40,000
Br sh Elbe, Calcutta, 12c.....cs 65,000
Br bk Cambusdoon, Hong Kong, p t..cs 50,000

March 24
Ger bk Caroline, Marseilles, 2s..... 8,000
Br sh Colchester, London, 1s 9d..... 9,000
It bk Conquistatore, Naples, 2s 9d..... 3,300

PHILADELPHIA.

Dec 19
Br sh Crown of England, Japan, 25c..cs 65,000

Jan 15
Br sh Wildwood, Japan, 23c.....cs 60,000
Nor bk Einar, Spanish port, bulk..... 12,000

Jan 23
Br sh Elmbank, Japan, 24½c.....cs 85,000

Jan 26
Br sh Orion, Japan.....24c, cs 80,000

Feb 11
Br sh Petersborough, Japan, 23c.....cs 65,000

Feb 17
Br sh Lord Lytton, Dunkirk, 2s 6d..cde 8,000

Feb 19
Br str Olive Branch, Japan, 29c.....cs 80,000

Feb 23
It bk Alfredo, Naples, 13½c.....cs 20,000

Feb 29
Br bk Romanoff, Port de Bouc, 2s 3d.cde 7,000

March 1
Am sh Sigwid, Japan, p t.....cs 60,000

March 2
It bk Marie Madre, Lisbon, p t..... 6,000
Br bk Silicon, Sables de Olonnes, 3s.cde 4,000
Br sh Sigurd, Japan, 22½c.....cs 75,000

March 3
Am sh Charger, Hong Kong, 20c.....cs 55,000
Am sh Middlesex, Japan, p t.....cs 70,000

March 4.
Br str Creighton, Red Sea ports, pt...cs 80,000

March 9
Gr str Cheater, Holland, bulk..... 24,000

March 10
It bk Loretta, Genoa, p t..... 6,000

March 11
Br sh ——, Japan, 22½ & 23c.....cs 110,000

March 14
Ger bk Marie, Hamburg, 2s 3d.....lub 8,000
It bk Lorenzo, Italy, p t.....cs 25,000

March 16
It bk Carmela C, Lisbon, 2s 9d..... 4,000

March 17
It bk Clementina, Naples, 11c.....cs 30,000

March 19
Am bg Kathleen, Bahia, 85c..... 3,500

March 23
Nor bk Ystava, Liverpool, 2s 6d. ...lub 4,000

Clearances of Petroleum.

Following are the clearances of petroleum from the ports of New York, Philadelphia, Baltimore, Boston and San Francisco on the dates named. Refined, unless otherwise specified:—

NEW YORK.

March 18
Br sh Beethoven, London, 2,190 bbls, 3,780 bbls nap, 50 bbls cde
Am bk Normandy, Rio de Janeiro, 22,000 cs
Dut bk Semper Spera, Anjier f o, 48,270 cs
It bk Mascotta, Santo Domingo, 1,800 cs
Br sch Bessie E Crane, Bahia, 4,850 cs

March 19
Br str Andes, Haytian Ports, 113 cs
Br str Andes, U S Columbia, 221 cs
Br str Belair, Domenica, 210 cs
Br str Belair, St Kitts, 220 cs
Br str Belair, Antigua, 25 cs
Br str Belair, St Croix, 8 bbls
Br str Belair, St Lucia, 200 cs
Br str Harlow, Miquelon, 46 bbls

March 21
Am str Lampasas, Colon, 480 cs
Nor str Germanic, Melbourne, 12,672 cs
Br sh Laomene, Batavia, (f o) 220,044 cs
Am bk W B Flint, Adelaide, 10,500 cs
Br bk W Gordon, Santos, 13,500 cs
Gy bk Marie B Kohrsch, Corral, 3,000 cs

March 22
Br str Orinoco, Hamilton, 42 bbls, 2 cs
Br str Alvo, Kingston, 200 cs
Br str Alvo, Jeremie, 85 cs
Br str Alvo, Pt Limon, 11 bbls, 150 cs
Am bk M Swan, Buenos Ayres, 9,500 cs
Am bk Megunticook, Demerara, 1,000 cs, 31 bbls
Br bk R Morrow, Yokohama, 43,500 cs

March 23
Br str Alps, Cd Bolivar, 41 cs
Br str Alps, Trinidad, 760 cs
Br str Alps, Grenada, 100 cs
Ger str Catania, Pernambuco, 200 cs
Nor sh Germanic, Melbourne, 9,500 cs
Am bk M E Russell, Dunedin, 65,300 cs
Ger bk M B Kohrsch, Corral, 1,500 cs
Ger bk M B Kohrsch, Pisagua, 500 cs
Nor bk Hiram, Cape Town, 6,300 cs

March 24
Br str Amazoneuse, Para, 2,735 cs
Br str Amazoneuse, Pernambuco, 10,000 cs
Am str L Woodruff, Pt Spain, 1,000 cs

PHILADELPHIA

March 12
Str Weehawken, Dover f. o, 1,270,000 gls

BALTIMORE

March 16
Nor str Managua, Pt Antonio, 150 gls

BOSTON

March 17
Sch Diamond, St Pierre, 63 bbls

March 18
Str Yarmouth, Yarmouth, 25 cs

March 21
Bk H W Palmer, Zanzibar, 12,790 cs

March 22
Sch Jas W Flanagan, Annapolis, 23 bbls
Sch Ellen M Adams, 19 cs
Str Yarmouth, Yarmouth, 50 bbls

Phosphate Rock Shipments.

We are indebted to Mr. Paul C. Trenholm for the following statement of phosphate rock shipments from Charleston, for the month of Feb.:

	Crude		
Domestic.	1890.	1891.	1892.
Baltimore	2,240	7,110	3,796
Philadelphia	....	1,201	2,938
Weymouth, Mass.	1,295	1,385	825
Barren Island, N.Y.	575	610	....
Richmond, Va	300	1,890	700
Wilmington, N. C.	1,123	576	....
Elizabethport, N. J.	....	....	....
Newt'n Creek, N.Y.	1,074	....	....
Cartaret, N. J.	....	1,450	1,650
Seaford, Del.	....	600	....
Savannah, Ga.	....	295	....
So. Ca. R. R.	436	....	1,167
C. & S. R. R.	2,201	1,325	1,338
N. E. R.R.	....	612	1,497
	9,184	17,064	13,911
Foreign	....	....	....
Gottenburg	....	....	50
	9,184	17,064	13,961

Exports of Petroleum from New York

REFINED

COUNTRIES.	Week ending Mch. 17. Gals.	Jan. 1 to Mch. 17. 1892. Gals.	Jan. 1. to Mch 18. 1891. Gals.
Africa, Liberia	.....	.....	11,700
Sierre Leone	.....	6,430	.....
South Africa	60,740	432,200	351,900
Zanzibar	.....	455,000	.....
Algiers	.....	.....	.....
Anjier	482,700	1,545,050	.....
Arabia	.....	.....	.....
Argentine Republic	95,000	1,651,256	780,000
Australia	313,651	1,136,591	1,560,836
Austria	.....	.....	.....
Azores	.....	62,650	6,854
Belgium	.....	6,156,100	3,236,574
Brazil	592,990	2,120,902	1,840,294
British East Indies, Aden	.....	.....	.....
Burmah	.....	.....	.....
Ceylon	.....	.....	.....
India	.....	2,441,520	3,751,080
Penang	.....	632,950	345,000
Singapore	.....	.....	.....
British Guiana	11,550	89,500	104,400
British West Indies, Antigua	250	12,680	9,470
Barbadoes	.....	72,554	63,250
Basse Terre	.....	15,700	35,050
Bermuda	2,190	44,001	20,291
Domenica	2,100	5,730	2,980
Jamaica	4,120	149,748	122,672
Montserrat	.....	950	1,470
Nassau	.....	8,586	13,498
St. Lucia	2,000	6,764	8,658
St. Vincent	.....	16,000	2,000
Trinidad	18,120	81,950	62,300
All others	1,000	26,954	4,391
Canary Islands	.....	30,212	1,000
Central America, Belize	.....	22,820	22,843
Costa Rica	2,069	865	13,712
Guatamala	.....	48,375	4,253
Honduras	.....	17,914	5,880
Nicaragua	.....	77,124	24,936
San Salvador	.....	19,500	1,150
Chili	50,000	464,380	66,720
China, Cochin	.....	.....	.....
All other	.....	8,154,360	7,516,020
Cuba	.....	46,480	12,516
Danish West Indies	407	1,903	8,162
Denmark	.....	.....	330,867
Dutch East Indies, Java	2,200,400	1,418,600	686,000
Macassar	.....	.....	.....
Sumatra	.....	.....	.....
Dutch West Indies	20	45,933	54,001
Dutch Guiana	.....	15,200	.....
Ecuador	.....	.....	1,062
England	111,981	7,390,767	12,490,585
Egypt	.....	423,380	.....
France	.....	.....	.....
French Guiana	.....	.....	1,200
French West Indies	.....	101,852	45,300
Germany	.....	21,339,722	20,595,955
Gibraltar	.....	.....	127,500
Greece	.....	.....	.....
Hawaiian Islands	.....	285,100	90,000
Hayti	2,280	138,351	51,436
Ireland	.....	515,525	809,467
Italy	.....	172,861	1,500
Japan	435,000	1,094,950	2,210,900
Madeira Islands	.....	.....	.....
Malta	.....	.....	.....
Mauritius Island	.....	.....	102,200
Mexico	.....	10,520	28,250
Molucca Islands	.....	.....	243,550
Netherlands	.....	7,192,022	2,575,000
New Zealand	65,360	150,240	179,920
North America, New Brunswick	.....	125,543	151,767
New Foundland	2,410	44,747	69,250
Nova Scotia	.....	125,396	39,000
Prince Ed. Isl'nd	.....	.....	2,415
Norway and Sweden	.....	325,236	400,522
Peru	.....	36,250	18,120
Porto Rico	120	11,725	16,210
Phillippine Islands	.....	.....	290,000
Portugal	.....	142,960	178,597
Reunion	.....	.....	.....
Russia	.....	.....	.....
San Domingo	18,000	45,503	42,920
Scotland	.....	2,564	6,348
Siam	.....	466,000	40
Spain	.....	30,000	.....
Tasmania	.....	.....	.....
Turkey	.....	.....	.....
U. S. of Columbia	7,420	164,371	156,206
Uruguay	.....	550,580	753,600
Venezuela	11,100	123 285	235,316
Wales	.....	112,634	.....
Total	4,421,818	69,349 209	63,054,374

CRUDE

COUNTRIES.	Week ending Mch. 17. Gals.	Jan. 1 to Mch. 17. 1892. Gals.	Jan. 1 to Mch. 18. 1891. Gals
Argentine Republic	.....	.....	60,000
Australia	.....	.....	20
Austria	.....	.....	.....
Belgium	.....	.....	.....
Brazil	.....	.....	.....
British Guiana	.....	.....	.....
British North America	.....	.....	.....
British West Indies	.....	.....	.....
Canary Islands	.....	.....	.....
Chili	.....	.....	190
China	.....	.....	.....
Central America	.....	50,000	.....
Cuba	.....	1,175,551	520,133
Danish West Indies	.....	.....	875
Dutch East Indies	.....	.....	.....
Dutch West Indies	.....	.....	.....
England	2 629	.....	.....
France	.....	5,723,515	3,452,656
Germany	.....	.....	.....
Gibraltar	.....	.....	.....
Hawaiian Islands	.....	.....	.....
Mexico	.....	200,000	866,127
Norway and Sweden	.....	250,000	.....
Spain	.....	2,274,983	2,129,000
U. S. of Col	.....	.....	.....
Uruguay	.....	.....	.....
Venezuela	.....	.....	.....
Total	2,629	9,674,003	7,029,070

NAPHTHA

COUNTRIES.	Week ending Mch. 17. Gals.	Jan. 1 to Mch. 17. 1892. Gals.	Jan. 1 to Mch. 18. 1891. Gals.
Africa	.....	.....	.....
Algiers	.....	.....	.....
Argentine Republic	.....	3,495	4,675 2,175
Australia	.....	.....	.....
Belgium	.....	.....	.....
Brazil	.....	2,042	184,500 500
British North America	.....	.....	4,500
British West Indies	.....	.....	.....
Central America	.....	20	600
Chili	.....	.....	.....
China	.....	1,900	.....
Dutch West Indies	.....	.....	.....
England	201,714	1,071,330	254,599
France	.....	125,622	239,364 606,718
Germany	.....	1,195,819	1,500
Hayti	.....	.....	.....
Italy	.....	.....	.....
Mexico	.....	.....	.....
Norway and Sweden	.....	107,293	.....
Porto Rico	.....	.....	10 300
Portugal	.....	.....	.....
Russia	.....	.....	.....
Spain	.....	.....	.....
St. Domingo	.....	.....	487
Uruguay	.....	.....	.....
Venezuela	.....	.....	.....
Wales	.....	.....	.....
Total	201,714	2,506,611	1,302,348

Some Experiments on Petroleum Solidification.

BY SAMUEL RIDEL, D.S.C., F.I.C

It has long been known that the mineral oils can be readily gelatinised or converted into a more or less solid mass by the incorporation of various soaps or by the action of certain saponifoing substances which occur naturally, and of which the common soap wort may be taken as an example.

During the last few years several patents have been granted for different modes of applying the above general principles with a view of obtaining solid product containing petroleum which might be of some commercial utility. When soaps are employed for gelatinisation of the petroleum a product is obtained which is most of the properties of the soap added, and if the percentage of soap be large the mixture of soap and petroleum can be utilised as a detergent, and many of the cheaper soaps have a considerable quantity of paraffin incorporated with them in this way. It was, however, with a view of ascertaining what was the best and minimum quantity of foreign material necessary to bring about the solidification of the petroleum that these experiments were undertaken, and as the literature on this subject is very meagre, consisting chiefly of patent specifications of inventors, who for different reasons have not given a comparative statement of the properties of the different products described, it was thought that a short deseription of an attempt to systematise this subject would not be uninteresting to members of the Society of Chemical Industry. At the present time, to the best of my knowledge, none of these products are on the market in large quantities, but there is a good deal of private work going on, and there would seem to be no doubt that in a short time there will be industrial applications of these products.

A.—SOLIDIFIZATION BY MEANS OF SOAP.

It is obvious that various methods of procedure may be adopted both for making the soap and also for its incorporation with the petroleum. After several trials it was found that the most satisfactory results were obtained when the soap was actually made in contact with the petroleum, either simply by the addition of an alkali to a fatty acid dissolved in the heated oil, or by saponifying vege table oils in intimate contact with the petrolem. As already mentioned the conditions for the best incorporation of crude paraffins as an adulterant of soaps is probably well known, although for obvious reasons there is little public knowledge of these conditions. The experiments under these headings were, however, undertaken with a different object in view, and as in only a few cases more than 10 per cent. of soap was present in the finished product, the results will have little interest to the soap maker.

The procedure adopted to obtain these products varied somewhat with the particular experiment, but the following is a general outline of the method used in the laboratory:—100 cub. cms. (85·1 grms.) of commercial paraffin were heated in a capacious basin on a water-bath. The fatty acid or oil used was then added in proportions varying from 5 to 10 per cent. In the case of suet, 20 per cent. was necessary to obtain the best results. When the mixture was at a temperature of 80° C., it was thoroughly agitated by means of a wheel egg whisk, and then from 1 to 2 grms. of dry soda or an equivalent amount of alkaline solution, &c., introduced. The agitation was then conducted rapidly for a few minutes, during which the saponification of the fat or neutralization of the fatty acid takes place, and an emlusion of the melted soap with the paraffin is produced. In some cases the soap appears to be soluble soluble in the paraffin at this temperature, but the mixture on cooling solidifies. In the best experiments the mixture gelatinises while still at 80° C., and it becomes difficult to rotate the agitator in the basin. It is obvious that the use of a solid petroleum which was perfectly fluid at such a temperature would be somewhat limited, but it is more advantageous to determine the melting points of the solid products in the usual way than make any special determination of the temperature at which they become solid on cooling.

The melting points of the product depend on the kind of solidifying agent employed, some being viscous at the ordinary temperature and others varying from 42° C. to 132° C.

Among the vegetable oils employed, the best results were obtained with cocoanut oil and castor oil, both products being hard and white and far superior in these respects to those obtained when olive or linseed oil were used.

The apparent total separation of the rosin soaps from paraffin is noteworthy, as it was hoped that the resin acids would form compounds which would gelatinize the petroleum in a similar way to the vegetable fatty acids. The hardness and consistency of these products varies directly with the amount of soap present, those containing the most soap being the hardest, and, as already alluded to, the presence of glycerin when the gelatinization is effected by the saponification of an oil or fat tends to lower the consistency to that of a buttery mass. In the case of castor oil the presence of glycerin resulting from its saponification does not, however, prevent the product from being a solid. The products obtained when dry soda is used in the saponification are usually darker in color, more translucent, and less firm than those made with aqueous soda. Nevertheless, a greater number of good products were obtained with dry soda than when an aqueous solution was used, as the latter class include examples which were absolute failures, the soap produced apparently having no power of occluding of mixing with the paraffin.

The influence of water on the combination of finished soap with paraffin was observed. The product made in this way is substantially that covered by English patent No. 3,044. Dessicated soap refuses to unite with petroleum at the temperature obtained on the water bath, but on the addition of a small quantity of water and continuing the agitation, a product was obtained which when cold formed one of the best, both from its degree of hardness and its permanency in the air. It would seem that water, or possibly glycerin, was necessary to ensure the formation of these products, and that the solidification was purely mechanical, the soap frothing with the water and then enclosing the paraffin along with or in place of the air in the small bubbles formed.

The failure of the elaidin and elaidates to unite with the petroleum was a disappointment, as I can find no reference to any previous experiments in this direction. Possibly some of the new methods such as Schmidt's, for the conversion of oleic acid into iso-oleic and stearic acids might be worked to advantage in conjunction with a petroleum solidification process. At the same time it will be noted that several of the products obtained by solidifying with oleates were very satisfactory.

All these processes for the utilization of various soaps in order to solidify petroleum, are probably covered by the existing patents, especially those of Lawson and of Smith and Pearson already referred to. At the same time no one has drawn attention to the modifying action of the glycerin if allowed to be present in the finished product. Saponification by means of silicate of soda is covered by Lawson in his patent, but the use of sodium aluminate appears to be novel. Sodium aluminate appears to be superior to sodium silicate with many oils. It is a much more efficacions agent, for example. with both tallow and olive oil, as it renders these oils available for solidifying petroleum, and which could not be effected under the same conditions with water glass. A patent dating so far back as 1883, apparently covers all methods of making soaps in conjunction with paraffin either by the action of alkali or fatty acids or on the unsaponified fats and oils. This patentee has also devised a method of protecting the granulated petroleum from atmospheric influences and the action of a moderate temperature, by coating the product with a mixture of calcium or magnesium salts and sodium silicate. He draws attention to the hardness of the products obtained with castor oil and thus confirms what one would conjecture from a knowledge of the soaps made therefrom.

Some interesting products can be obtained by the blending of a soap solidified petroleum with petroleum jelly. When equal quantities of vaseline and refined petroleum are heated together and 10 per cent. of oleic acid and the requisite quantity of dry soda added, a jelly like and yellow product is obtained which resembles ordinary vaseline in appearance, but of softer consistency and smelling of petroleum. When stearic acid is substituted for the oleic acid a pale-yellow translucent jelly is obtained with dry soda, and a pale yellow opaque jelly when aqueous soda is employed. These admixtures may probably be found useful as a lubricating medium and seem to indicate that useful products could be similarly made from a petroleum from which the lighter spirit only had been removed.

In Eiseman's patent already referred to, entitled "Improvements in heating volatile or inflammable fluids and oils for storage, transportation and other purposes," an apparently essential part of the process consists in the admixture with the vegetable oil and paraffin before saponification of "an acid or acid combination." It is difficult, however, to see what part the acid plays in the process, as although he uses sulphuric acid and hydrochloric acid in many of the examples he cites, yet with castor oil no acid is employed, "owing to the peculiar acid found therein." As an alkali is subsequently added to bring about the saponification, I have made no experiments in this suggested variation. He further states that when a dry alkali is employed no heat is necessary, but when a lye is used it should be hot, but the temperature should be kept as low as possible. In the experiments done in my laboratory, heat has been found to accelerate if not absolutely to be necessary for the reaction when dry soda is employed, but in no case has the temperature been lower than that obtained on a water bath. On the other hand, Smith and Pearson, who incorporate 3—5 per cent. of dry soap with the oil, recommend a temperature a little above 280° F. while the soap is added, and afterwards

(Continued on page 37).

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IMPORTS, EXPORTS, DOMESTIC RECEIPTS, Etc.

IMPORTS ENTERED AT NEW YORK FOR CONSUMPTION.

For week ending Mar. 24.

ACID—5 cks, Veendam, Rotterdam
10 cs, Veendam, Rotterdam
OXALIC—34 cks, St Pancras, Liverpool
PHOSPHORIC—25 cs, Rugia, Hamburg
PYROGALLIC—2 cs, Veendam. Rotterdam
AMMONIA, SAL—11 cks, Veendam, Rotterdam
SULPH—224 bgs, St Pancras, Liverpool
ALIZARINE—16 cks, Veendam, Rotterdam
1 cs, Veendam, Rotterdam
13 cks, Veendam, Rotterdam
206 cs, Veendam, Rotterdam
4 cks, Teutonic, Liverpool
1 cs, Teutonic, Liverpool
BROWN—2 bbls, Rhynland, Antwerp
ALKALI, REF'D—24 cks, J L & D S Riker, The Queen, Liverpool
ANILINE COLORS—12 cs, La Normandie, Havre
21 cks, Rugia, Hamburg
1 cs, Rugia, Hamburg
1 cs, Veendam, Rotterdam
58 cks, Veendam, Rotterdam
10 cs, Veendam, Rotterdam
11 cks, Nevada, Liverpool
103 cs, Rhynland, Antwerp
30 cks, Rhynland, Antwerp
20 cks, Nevada, Liverpool
4 cs, La Bretagne, Havre
12 cs, La Bretagne, Havre
DYE—1 cs, City of New York, Liverpool
2 kgs, Corean, Glasgow
2 cs, Rhynland, Antwerp
1 kg, Rhynland, Antwerp
2 bbls, Rhynland, Antwerp
3 cs, La Bretagne, Havre
PRODUCT—4 cks, Rhynland, Antwerp
SALTS—89 cks, Veendam, Rotterdam
18 cks, Wieland, Hamburg
ASPHALT—3,500 loaves, Hilston, Bremerhaven
152 cakes, Hilston, Bremerhaven
1,000 tons, Barbadian, Trinidad
ARCHIL LIQUOR—13 cs, France, London
6 cks, France, London
19 bbls, Rugia, Hamburg
5 cks, La Bretagne, Havre
ARGOLS—63 cks, Chandernagoe, Marseilles
44 cks, Chandernagoe, Marseilles
133 bgs, Chandernagoe, Marseilles
31 cks, Po, Girgenti
100 bgs, M Prince, Catania
500 bgs, Po, Messina
BALSAM—8 cs, Athos, Barranquella
COPAIBA—12 cs, Athos, Savanilla
BARK, CASCARILLA—68 bls, Santiago, Cienfuegos
CINCHONA—12 cs, Dietz & Hopkins, Didam, Amsterdam
EXT—138 pgs, The Queen, Liverpool
BEANS, VANILLA—2 cs, City of New York, Liverpool
BLEACH—147 cks, Chandernagoe, Marseilles
10 cs, Davis, Wolt & Co, Britannic, Liverpool
436 cks, J L & D S Riker, The Queen, Liverpool
BONES—15 tons, F D Hodgkins' Rio Hacho
BRIMSTONE—2,600 cantars, Po, Girgenti
200 tons, Po, Girgenti
6,500 cantars, M Prince, Catania
5,525 cntrs, Tuiziativa, Girgenti
CACHOU DE LAVAL—25 cks, La Bretagne, Havre
CACAO BUTTER—102 cs, Rogers & Pyatt, Britannic, Liverpool
2 cs, Britannic, Liverpool
CASSIA—400 cs, C S Whitney, Hong Kong
50 cs, C S Whitney, Hong Kong
3,000 bls, C S Whitney, Hong Kong
CEMENT—30 cs, Servia, Liverpool
1,000 cks, France, London
500 bbls, Rugia, Hamburg
300 bbls, Bremerhaven, Stettin
1,000 bbls, Hilston, Bremerhaven
1,000 cks, Rhynland, Antwerp
560 cks, Rugia, Hamburg
750 bbls, Bremerhaven, Stettin
750 cks, Veendam, Rotterdam
500 bbls, Rhynland, Antwerp
250 bbls, Rhynland, Antwerp
560 cks, Wieland, Hamburg
1,100 cks, Wieland, Hamburg
COAL TAR—300 bbls, Corean, Glasgow
PITCH—100 cks, France, London
2 cs, L Monarch, London
CORK—5 bls, Oevenum, Seville
WOOD—340 bdls, Oevenum, Oporto
555 bdls, Oevenum, Lisbon
100 bdls, Oevenum, Lisbon
255 bdls, Oevenum, Lisbon
876 bdls, Oevenum, Lisbon
175 bdls, Oevenum, Lisbon
2 bls, Fulda, Leghorn
4 bls, Vega, Lisbon
3,069 bdls, Vega, Lisbon
566 bdls, Oevenum, Oporto
62 bls, Oevenum, Oporto
870 bdls, Oevenum, Oporto
40 bls, Oevenum, Oporto
89 bls, Oevenum, Lisbon
CHAMOIS—4 cs, City of New York, Liverpool
4 cs, City of New York, Liverpool
CHEMICALS—1 cs, Lehn & Fink, Montana, London
SALT—127 cks, Illinois, Antwerp
18 cks, Veendam, Rotterdam
130 cks, Veendam, Rotterdam
30 cs, Britannic, Liverpool
CHALK—400 tons, France, London
COCAINE—2 cs, Servia, Liverpool
COLOCYNTH APPLES—4 cs, Dietz & Hopkins, Holstein, Hamburg
CLOVES—200 bls, Vega, Zanzibar
CHILLIES—248 bgs, Servia, Liverpool
CUTCH—900 bgs, H Cann, Calcutta
DIVI DIVI—116 tons, F D Hodgkins, Rio Hacho
DRAGON'S BLOOD—2 cs, France, London
DYEWOOD, EXT—25 cs, Virginia, Havre
200 cs, Virginia, Havre
9 cks, Rugia, Hamburg
20 bbls, Rhynland, Antwerp
200 cs, Wieland, Hamburg
FLOWERS, LAVENDER—1 bl, Chandernagoe, Naples
SAFFRON—2 cs, Chandernagoe, Marseilles
1 cs, Lehn & Fink, Majestic, Liverpool
FUSTIC—2,629 pcs, Adele Thackera, Cartagena
263 pcs, Athos, Barranquella
113 tons, Geo Bird, St Domingo
EXT—25 cks, St Pancras, Liverpool
GAMBIER—264 pgs, P Girgenti, Liverpool
GLAUBER SALT—20 cks, Veendam, Rotterdam
GLUE—10 cs, Rugia, Hamburg
20 bls, Ludgate Hill, London
60 bgs, Cuffe, Liverpool
12 cks, Galileo, Hull
GELATINE—75 cs, St Pancras, Liverpool
5 cs, Ludgate Hill, London
75 cs, Ethiopia, Glasgow
200 cs, Ethiopia, Glasgow
5 cs, Nevada, Liverpool
14 cs, Veendam, Rotterdam
GREASE—30 cks, France, London
GLYCERINE—323 dms, France, London
10 cs, City of New York, Liverpool
3 dms, France, London
GLASS, L G—8 cs, Virginia, Havre
16 cs, Rhynland, Antwerp
PLATE—4 cs, Othello, Antwerp
46 cs, Othello, Antwerp
30 cs, Othello, Antwerp
2 cs, La Normandie, Havre
24 cs, Virginia, Havre
23 cs, Rhynland, Antwerp
29 cs, Veendam, Rotterdam
4 cs, Veendam, Rotterdam
5 cs, Britannic, Liverpool
25 cs, Rhynland, Antwerp
10 cs, Britannic, Liverpool
10 cs, Etruria, Liverpool
WINDOW—4,294 cs, Othello, Antwerp
2,462 cs, Othello, Antwerp
2,178 cs, Othello, Antwerp
6,823 cs, Othello, Antwerp
50 cs, Nevada, Liverpool
2,146 cs, Rhynland, Antwerp
GUM, ANIMI—9 cs, France, London
10 cs, France, London
11 cs, La Monarch, London
ASSAFOETIDA—9 cs, Ludgate Hill, London
6 cs, Ludgate Hill, London
3 cs, France, London
12 cs, France, London
15 cs, Dietz & Hopkins, Ebro, Hamburg
ALOES—4 cs, Ludgate Hill, London
3 cs, France, London
ARABIC—5 cs, Chandernagoe, Marseilles
26 cks, D E Green, Spain, London
CHICLE—1 cs, Yucatan, Havana
48 sks, Yucatan, Havana
CAMPHOR—406 tubs, Santa Clara, Hiogo
519 cs, Connemara, Hiogo
189 tubs, Connemara, Hiogo
181 tubs, Connemara, Hiogo
375 tubs, Connemara, Hiogo
COPAL—591 cs, Connemara, Hiogo
322 cs, Connemara, Hiogo
494 cs, Connemara, Hiogo
EUPHORB—1 seroon, Lehn & Fink, Montana, London
KAURI—52 cks, France, London
254 cs, France, London
SENEGAL—5 pgs, Thurston & Braidich Chandernagoe, Marseilles
14 pgs, Thurston & Braidich, La Bretagne, Havre
INDIGO—136 chts, Ludgate Hill London
69 pgs, Ludgate Hill, London
22 cs, Ethiopia, Glasgow
59 chts, Ludgate Hill, London
33 chts, Ethiopia, Glasgow
37 chts, Ethiopia, Glasgow
52 chts, Britannic, Liverpool
15 chts, J L & D S Riker Britannic, Liverpool
29 chts, Britannic, Liverpool
AUXILIARY—39 cks, Rhynland, Antwerp
CARMINE—5 cks, Veendam, Rotterdam
EXT—6 cks, Virginia, Havre
10 cks, Nevada, Liverpool
LEAVES, BUCHU—4 bls, Ludgate Hill, London
12 bls, Ludgate Hill, London
COCA—79 bls, Colon, Aspinwall
PEPPERMINT—1 cs, Dietz & Hopkins, Hindoo, Hull
SENNA—2 bls, Lehn & Fink, Montana, London
LOGWOOD—227¼ tons, T W Holder, Gonaives
48¼ tons, Geo Bird, St Domingo
EXT—3 cks, Corean, Glasgow
LEMON JUICE—65 pipes, M Prince, Catania
MALT EXT—7 cs. Veendam, Rotterdam
22 cks, Wieland, Hamburg
MANGANESE HYPOPHOSPHITE—1 cs, Lehn & Fink, Montana, London
MORPHIA—1 cs, (900 ozs,) Servia, Liverpool
10 cs, France, London
MOSS, IRISH—20 bls, Lehn & Fink, Virginia Hamburg

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17 cs, Veendam, Rotterdam
OCHRE—63 cks, Chandernagoe, Marseilles
97 bbls, Chandernagoe, Marseilles
100 cks Chandernagoe, Marseilles
255 cks, Chandernagoe, Marseilles
200 cks, Chandernagoe, Marseilles
75 cks, Chandernagoe, Marseilles
OTTO OF ROSE—3 cs, Servia, Liverpool
4 cs, La Bretagne, Havre
ORANGE MINERAL—26 cks, Veendam, Rotterdam
WATER—20 demijohns, Chandernagoe, Marseilles
OIL, ALMOND—1 cs, Wieland, Hamburg
BERGAMOT—50 cs, Po, Girgenti
1 cs, M Prince, Catania
5 cs, M Prince, Catania
15 cs, Pocasset, Palermo
ESS—20 cs, M Prince, Catania
60 cs, M Prince, Catania
38 cs, Chandernagoe, Marseilles
2 cs, Chandernagoe, Marseslles
1 cs, Chandernagoe, Marseilles
50 cs, Po, Girgenti
4 cs, Wieland, Hamburg
LAVENDER—3 cs, Chandernagoe, Marseilles
3 cs, Chandernegoe, Marseilles
LINSEED—2 cks. Rugia, Hamburg
LEMON—100 cs, Po, Girgenti
2 cs, M Prince, Catania
25 cs, M Prince, Catania
40 cs, M Prince, Catania
16 cs, Liebman & Butler, M Prince, Catania
10 cs, Po, Messina
6 cs, M Prince, Messina
100 cs, M Prince, Messina
NEROLI—1 cs, Chandernagoe, Marseilles
OLIVE—4 bbls, Chandernagoe, Naples
15 bbls, Liebman & Butler, Iniziativa, Messina
ORANGE—10 cs, Po Girgenti
2 cs, M Prince, Catania
5 cs, M Prince, Catania
5 cs, M Prince, Catania
6 cs, M Prince, Messina
PALM—25 cks, Servia, Liverpool
7 cks, City of New York, Liverpool
ROSEMARY—3 cs, Chandernagoe, Marseilles
SANDAL—1 cs, Lehn & Fink, Montana, London
SAVIN—1 cs, Chandernagoe, Marseilles
SESAME—10 bbls, Chandernagoe, Marseilles
25 bbls, Chandernagoe, Marseilles
25 bbls, Chandernagoe, Naples
THYME—3 cs, Chandernagoe, Marseilles
50 cs, Chandernagoe, Marseilles
5 cs, Chandernagoe, Marseilles
2 cs, Wieland, Hamburg
OPIUM—14 cs, Po, Girgenti
10 cs, Britannic, Liverpool
PASTILLES, BLACK—1 cs, Dietz & Hopkins, Hindoo, Hull
RED—1 cs, Dietz & Hopkins, Hindoo, Hull
PEPPER—314 bgs, France, London
381 bgs, France, London
559 bgs, Ludgate Hill, London
75 bgs, France, London
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401 bgs, Connemara, Yokohama
422 pcls, Connemara, Yokohama
PHOSPHATE—2,000 bgs, Othello, Antwerp
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POTASH, CARB—39 cks, Cuflc, Liverpool
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100 kgs, Cuflc, Liverpool
CAUSTIC—5 cs, Davis, Wolt & Co, Britannic, Liverpool
PRUSS—44 cks, Amalfi, Hamburg
18 cks, Veendam, Rotterdam
37 cks, Corean, Glasgow
POMADE—1 cs, Chandernagoe, Marseilles
20 cs, Wieland, Hamburg
QUININE, SALTS—49 cs, Veendam, Rotterdam
ROSE WATER—30 demijohns, Chandernagoe, Marseilles
ROOT, ALTHEA, CUT—10 cs, Dietz & Hopkins, Hindoo, Hull
CALAMUS—2 cks, City of New York, Liverpool
DOGGRASS, CUT—5 bls, Dietz & Hopkins, Hindoo, Hull
IPECAC—4 bls, Ludgate Hill, London
3 bls, Ludgate Hill, London
2 cs, France, London
2 cs, France, London
4 bgs, Lehn & Fink, Montana, London
JALAP—3 bls, Orizaba, Vera Cruz
17 bgs, Orizaba, Vera Cruz
15 pgs, Orizabo, Vera Cruz
LICORICE—59 cs, Chandernagoe, Marseilles
25 cs, Chandernagoe, Naples
LOVAGE—2 bls, Dietz & Hopkins, Hindoo, Hull
SARSAPARILLA—23 bls Carib, Truxillo
21 bls, Carib, Truxillo
10 bls, Carib, P Cortez
10 bls, Orizaba, Vera Cruz
SALTPETER—586 bgs, H Cann, Calcutta
SEED, ANNATTO—12 bbls, Delta, Kingston
21 bbls, Argonant, Montego Bay
CARAWAY—100 bgs, Veendam, Rotterdam
CARDAMOM—1 cs, Lehn & Fink, Montana, London
CORIANDER—498 bgs, Ludgate Hill, London
FENNEL—10 bls, Lehn & Fink, Wieland, Hamburg
MILLET—500 bgs, Po, Messina
SOAP, CASTILE—24 cs, Chandernagoe, Naples
125 cs, Chandernagoe, Marseilles
STOCK—10 bbls, City of New York, Liverpool
SOFT—5 bbls, Corean, Glasgow
SHELLAC—350 chts, Ludgate Hill, London
66 chts, Ethiopia, Glasgow
BUTTON LAC—50 cs, Rogers & Pyatt, Ludgate Hill, London
SPONGES—257 cs, Servia, Liverpool
57 bls, Niagara, Havana
5 bls, Santiago, Cienfuegos
113 bls, Santiago, Cienfuegos
38 bls, Santiago, Cienfuegos
7 bls, Po, Girgenti
32 bls, Santiago, Nassau
35 bls, Santiago, Nassau
18 bls, Santiago, Nassau
SUMAC—630 bgs, California, Palermo
150 bgs, Pocasset, Palermo
EXT—20 bbls, Rhynland, Antwerp
SODA, ASH—104 cks, Cuflc, Liverpool
516 tcs, Wing & Evans, Scotland, Liverdool
428 tcs, Wing & Evans, Treasurer, Liverpool
CAUSTIC—10 dms, Othello, Antwerp
173 dms, Cuflc, Liverpool
200 dms, Cuflc, Liverpooi
5000 dms, Nevada, Liverpool
10 cs, Davis, Wolt & Co, Britannic, Liverpool
180 dms, J L & D S Riker, The Queen, Liverpool
200 dms, Wing & Evans, Majestic, Liverpool
CARB—54 bbls, J L & D S Riker, The Queen, Liverpool
CRYL—140 bbls, J L & D S Riker, Britannic, Liverpool
SUGAR OF MILK—6 cs, Veendam, Rotterdam
SULPHUR—2,023 tons, Connemara, Yokohama
TARTAR—125 cks, Chandernagoe, Marseilles
TERRA ALBA—100 cks, Chandernagoe, Marseilles
50 sks, Chandernagoe, Marseilles
TURMERIC—100 bgs, France, London
ULTRAMARINE—10 cks, Veendam, Rotterdam
20 cs, Veendam, Rotterdam
VARNISH—31 cs, France, London
VERDIGRIS—10 cks, Rogers & Pyatt, Britannic, Liverpool
ZINC, OXIDE—150 bbls, Virginia, Havre

WAREHOUSED.

ALCOHOL—5 bbls, Amalfi, Hamburg
ANILINE COLORS—92 cks, Veendam, Rotterdam
90 cs, Veendam, Rotterdam
51 cs, Rhynland, Antwerp
DYE—11 cks, Veendam, Rotterdam
1 cs, Veendam, Rotterdam
BRONZE POWDER—4 cs, Dania, Hamburg
CACAO BUTTER—40 cs, Servia, Liverpool
CORKS—38 bls, Panama, Bordeaux
11 bls, Chandernagoe, Marseilles
2 bls, Oevenum, Cadiz
3 bls, Oevenum, Lisbon
GELATINE—10 bls, Virginia, Havre
GLASS, L G—34 cs, Rhynland, Antwerp
WINDOW—438 cs, Rhynland, Antwerp
LICORICE PASTE—50 cs, Panama, Bordeaux
50 cs, Oevenum, Cadiz
POMADE—3 cs, La Normandie, Havre
SOAP, CASTILE—500 cs, Ludgate Hill, London
SODA, CAUSTIC—100 bbls, Cuflc, Liverpool
20 dms, Britannic, Liverpool
SPONGES—28 bls, Santiago, Naesau
28 bls, Santiago, Nassau
194 bls, Santiago, Nassau
VERMILION—14 cks, France, London

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IMPORTS AT NEW ORLEANS.

For week ending March 20.

CEMENT—4,560 bbls, Rhein, Bremen
CHEMICALS—1,087 cks, Rhein, Bremen
GUM, SEA—3¼ tons, Garnock, Frontera
SODA, BICARB—25 kgs, Astronomer, Liverpool
CAUSTIC—55 dms, Astronomer, Liverpool
CRYSTALS—125 bbls, Astronomer, Liverpool
HYPO—300 kgs, Astronomer, Liverpool

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IMPORTS AT SAN FRANCISCO.

For week ending Mch 14.

ALUM—57 bbls, Thetis, Antwerp
CEMENT—5,255 cks, Thetis, Antwerp
GLASS—6,127 pgs, Thetis, Antwerp
6 cs, Thetis, Antwerp
SULPHUR, SULPHATE—300 bbls, Thetis, Antwerp

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IMPORTS AT BALTIMORE.

For week ending March 17.

BLEACH—167 cks, J L & D S Riker, Sedgemore Liverpool
CEMENT—2,000 cks, Memphis, London
500 cks, Dravant, Antwerp
GUANO—468 tons, Ed A Sanchez, Orchilla
PITCH—100 bbls, Concordia, Glasgow
PEPPER—537 bgs, Memphis, London
POTASH, MURI—2,000 bgs, Kailsruhi, Hamburg
1,500 bgs, Stuttgart, Hamburg
SODA, ASH—63 cks, J L & D S Riker, Sedgemore Liverpool
489 cks, Wing & Evans, Sedgemore, Liverpool
CARB—25 bbls, J L & D S Riker, Polynesian Liverpool

—:o:—

IMPORTS AT BOSTON.

For week ending March 22.

AMMONIA—10 cks, Linder & Meyer, Venetian, Liverpool
BLEACH—44 cks, J L & D S Riker, Michigan, Liverpool
85 cks, J L & D S Riker, Michigan, Liverpool
88 cks, J L & D S Riker, Michigan, Liverpool
43 tcs, J L & D S Riker, Michigan, Liverpool
38 cks, J L & D S Riker, Lancastrian Liverpool
266 cks, J L & D S Riker, Lancastrian Liverpool
83 tcs, J L & D S Riker, Lancastrian, Liverpool
206 cks, J L & D S Riker, Lancastrian, Liverpool
93 tcs, J L & D S Riker, Lancastrian, Liverpool
250 cks, J L & D S Riker, Norseman, Liverpool

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HOECHST, GERMANY,
And protected by Trade Mark an U. S. Patent.
LANOLINE--Liebreich
ALSO FOR
SACCHARINE--Fahlber
J. Hauff's SALICYLIC ACID

THE UNITED ALKALI CO., Limited.

CAUSTIC SODA

60%, 70%, 74%, 76% & 77%

For spot delivery and or for prompt or forward shipments to New York, Boston, Philadelphia, Baltimore, New Orleans, or on through freight to inland cities.

JAMES LEE & CO.,
72 Pine Street, NEW YORK.

EDWARD HILL'S SON & CO.,
25 Cedar Street, NEW YORK,

Sole Agents for the United States.

Cream of Tartar Tartaric Acid

GUARANTEED 99–100 Per Cent. PURE.

TARTAR CHEMICAL COMPANY,

Stokes Building, 45-47-49 Cedar St., New York City.

CEMENT—500 bbls, De Ruyter, Antwerp
CALCIUM, CHLORIDE—39 dms, J L & D S Riker, Catalonia, Liverpool
CLAY, CHINA—144 cks, Venetian, Liverpool
300 bgs, Philadelphian, Liverpool
100 cks, Philadelphian, Liverpool
360 cks, Philadelphian, Liverpool
336 cks, Lancastrian, Liverpool
2 cks, Lancastrian, Liverpool
CUTCH—300 cs, Philadelphian, Liverpool
CUDBEAR—2 cks, Galileo, Hull
FUSTIC, EXT—25 cks, Michigan, Liverpool
18 cks, Michigan, Liverpool
GLASS—50 cs, Venetian, Liverpool
PLATE—6 cs, Venetian, Liverpool
5 cs, De Ruyter, Antwerp
WINDOW—63 cs, Venetian, Liverpool
225 cs, Venetian, Liverpool
1,235 cs, De Ruyter, Antwerp
50 cs, De Ruyter, Antwerp
6,696 cs, De Ruyter, Antwerp
11,882 cs, Sorrento, Antwerp
21 cs, Sorrento, Antwerp
6 cs, Sorrento, Antwerp
GELATINE—75 cs, Catalonia, Liverpool
75 cs, Catalonia, Liverpool
GLUE—100 bgs, Catalonia, Liverpool
GAMBIER—2,520 bls, W Belle, Singapore
CUBE—353 bls, W Belle, Singapore
577 bgs, W Belle, Singapore
GUM, COPAL—463 cs, W Belle, Singapore
MADDER—5 cks, Sorrento, Antwerp
OPIUM—3 cs, Philadelphian, Liverpool
POTASH—10 cks, A Klipstein, DeRuyter, Antwerp
BICHRO—25 cks, J L & D S Riker, Abyssinian, Hamburg
PITCH—50 tubs, Galileo, Hull
RED, INDIAN—54 cks, Lake Nepigon, Liverpool
VENETIAN—100 bbls, Lake Nepigon, Liverpool
SALTPETER—1,380 bgs, Trojan, Calcutta
SULPHUR, CDE—1,001 pgs, Philadelphian, Liverpool
SODA ASH—30 cks, Venetian, Liverpool
48 tcs, Venetian, Liverpool
82 cks, Palestine, Liverpool
400 bgs, Palestine, Liverpool
21 cks, Michigan, Liverpool
65 cks, Michigan, Liverpool
200 bgs, Michigan, Liverpool
126 bgs, Wing & Evans, Lake Superior, Liverpool
800 tcs, Wing & Evans, Lake Superior, Liverpool
112 tcs, J L & D S Riker, Lancastrian, Liverpool
CAUSTIC—250 dms, Palestine, Liverpool
50 dms, J Lee & Co, Lancastrian, L'pool
CARB, CRYL—84 bbls, J L & D S Riker, Catalonia, Liverpool
CRYSTALS—84 bbls, Michigan, Liverpool
HYPOPHOSPHATE—18 cks, Galileo, Hull
SAGO FLOUR—839 bgs, Western Belle, Singapore
SULPHUR, CDE—1,000 bgs, Lancastrian, Liverpool
TURMERIC—600 bgs, J W Lewis, Trojan, Calcutta
1,150 bgs, Trojan, Calcutta

—:o:—

IMPORTS AT PHILADELPHIA.

For week ending March 24.

ACID, PHOSPHORIC—22 cks, Cresswell, Hamburg
AMMONIA—200 bgs, Lord Gough, Liverpool
ASPHALT—970 tons, E Souther, Pt Spain
7,000 loaves, Cresswell, Hamburg
900 tons, Platina, Pt Spain
BLEACH—110 cks, J L & D S Riker, Lord Gough Liverpool
BONES—450 tons, Augustine Kobbe, Rosario
490 bgs, C E Morrison, Havana
CORKWOOD—793 bls, Giuseppe, Phillipeville
COAL TAR—50 bbls, Manitoban, Glasgow
CHINA CLAY—341 tons, Holkar, London
CEMENT—1,000 bbls, Astrion, Hamburg
1,000 cks, Holkar, London
500 cks, Holkar, London
MALT, EXT—1,000 cs, Eisner & Mendelson, Cresswell, Hamburg
OPIUM—115 cs, Lord Gough, Liverpool
7 cs, Holkar, London
SODA, ASH—574 cks, Wing & Evans, Lord Gough Liverpool
149 cks, Jas Lee & Co, Manitoban, Glasgow
SAL—250 cks, Jas Lee & Co, Feleciana, Newcastle

TOTAL DOMESTIC RECEIPTS.

FOR WEEK ENDING MARCH 24, 1892.

		For week.	Since Jan. 1.
Alcohol	bbls	1,970	3,067
Asphalt	bbls.	8	21
Bark	sks.	..	..
Beeswax	pkgs.	810	814
Bones	pkgs.	137	457
Bone black	bags.	155	218
Borax	pkgs.	180	3,890
Crude	pkgs.	1,850	1,850
Clay	pks.	45	236
Cottonseed	bags.	..	..
Ashes	bgs	421	821
Cake	bags.	1,065	1,065
Meal	pgs.	2,720	7,340
Flaxseed	bu.	14,725	38,800
Glue	bbls.	..	..
Stock	bpg.	29	29
Glucose	bbls.	..	..
Grease	pkgs.	479	947
High Wines	bbls	2,146	4,981
Lead	pgs.	16,092	18,212
Mustard seed	bags	487	2,607
Oil, Cottonseed	bbls.	3,950	15,592
Cake	bags.	6,564	11,280
Lard	bbls.	412	472
Lubricating	bbls.	845	1,680
Whale	bbls	439	439
Oleo stock	pkgs.	3,525	5,100
Pitch	bbls.	468	483
Quicksilver	flks.	300	600
Rosin	bbls.	5,051	8,696
Soap	bbls.	90	143
Soap stock	bbls.	150	550
Sponge	bls	..	..
Stearine	pkgs.	88	113
Sumac	ags.	91	171
Tallow	pkgs.	1,572	2,488
Tar	bbls.	886	1,052
Turpentine, crude	bbls.	61	82
spirits	bbls.	1,782	2,323

WITHDRAWALS FROM BOND.

For week ending March 24.

Alcohol, bbls	4
Aniline colors, pgs	70
Aniline dyes, pgs	35
Bay rum, pgs	12
Bronze powder, cs	11
Cacao butter, pgs	35
Chillies, bls	46
Cement, bbls	200
Corks, pgs	53
Glue, cks	25
Glass, L G, cs	1
Glass window, cs	500
Glycerine, dms	101
Licorice paste, cs	20
Oil, cod liver, bbls	10
Oil, Myrbame, cs	50
Orange mineral, cks	11
Pomade, cs	3
Soap, castile, cs	67
Soda, caustic, dm	1
Sponges, bls	5

NEW YORK DOMESTIC RECEIPTS.

For week ending March 24.

ALCOHOL—185 bgs, str, New Orleans
65 bgs, B & O RR
1,720 bgs, ship, San Francisco
BEESWAX—805 bgs, str, New Orleans
2 bgs, str, Richmond
3 bgs, str, Charleston
BONES—137 bgs, str, New Orleans
BORAX, CDE—1,850 sks, str, San Francisco
CLAY—45 cks, str, Charleston
COTTONSEED ASHES—421 bgs, str, New Orleans
FLAXSEED—7,750 bu, Erie RR
6,975 bu, L V RR
GLUCOSE STOCK—29 pgs, str, New Orleans
GREASE—72 pgs, Housatonic RR
203 pgs, N R boats
133 pgs, H R RR
12 pgs, Cent RR of N J
26 pgs, str, Richmond
12 pgs, B & O RR
11 pgs, N Y, W S & B RR
10 pgs, Penn RR
HIGHWINES—986 bbls, Penn RR
660 bbls, B & O RR
500 bbls, D, L & W RR
LEAD—8,297 pigs, str, Richmond
5,487 pigs, Erie RR
308 pigs, Penn RR
2,000 pigs, ship, San Francisco
MUSTARD SEED—487 bbls, Ship San Francisco
OIL, COTTONSEED—596 bbls, str New Orleans
708 bbls, str, Richmond
1,650 bbls, N Y, W S & B RR
426 bbls, str, Savannah
174 bbls, str, Charleston
280 bbls, str, Wilmington
50 bbls, Penn RR
66 bbls, str, Fernandina
CAKE—2,135 bgs, Penn RR
130 bgs, L V RR
1,240 bgs, Erie RR
1,330 bgs, D, L & W RR
1,729 bgs, H R RR
LARD—262 bbls, Penn RR
150 bbls, N Y W S & B RR
LUB—785 bbls, Erie RR
60 bbls, N Y W S & B RR
WHALE—489 cks, ship, San Francisco
OLEO STOCK—495 pgs, D, L & W RR
3,130 pgs, N Y W S & B RR
PITCH—398 bbls, str, Wilmington
70 bbls, str, Savannah

NEXT ARRIVALS. —:o:— **CRASSE**

TOMBAREL FRÈRES

FRANCE

NOVELTIES. —:o:—

Pomades, Lily of the Valley, Reseda (from Flowers), Cassie, etc.
African Geranium Oil (own distillation,)
Concrete Oil of Orris Root.
Oil Petitgrain (true French.)
Lavender, Thyme, Rosemary, etc.

Manufacturers of Pure Flower Pomades
Distillers of Essential Oils, Floral Waters, &c.

STOCK IN NEW YORK AT

ARTHUR A. STILWELL'S, 103 William St.,
OUR SOLE AGENT FOR U. S. A. AND CANADA.

White Lilac and Lilas Fleuri Pomade: Extracts from these Pomades Give Exactly the Natural Odor of the FLOWERS.

ROSIN—1,120 bbls, str, Savannah
1,926 bbls, str, Georgetown
136 bbls, str, Wilmington
1,841 bbls, str, Richmond
28 bbls, str, Fernandina
SOAP—90 bbls, str, Richmond
STOCK—50 bbls, Penn RR
100 bbls, str, Charleston
STEARINE—15 bbls, D, L & W RR
10 bbls, Penn RR
63 bbls, Erie RR
SUMAC—91 bls, str, Richmond
TALLOW—11 pgs, N Y O & W RR
136 pgs, N Y, W S & B RR
357 pgs, N R boats
76 pgs, Erie RR
110 pgs, D, L & W RR
49 pgs, L V RR
101 pgs, Housatonic RR
255 pgs, B & O RR
89 pgs, Cent RR of N J
115 pgs, str, Richmond
186 pgs, H R RR
67 pgs, Penn RR
TAR—595 bbls, str, Wilmington
291 bbls, str, Richmond
TURPENTINE—114 bbls, str, Richmond
239 bbls, str, Savannah
196 bbls, str, Charleston
385 bbls, str, Georgetown
845 bbls, str, Wilmington
9 bbls, str, Fernandina

CHARLESTON DOMESTIC RECEIPTS

For week ending March 22.

ROSIN—65 bbls C & S RR
691 bbls, N E RR
535 bbls, S C RR
TURPENTINE—18 cks, C & S RR
38 cks, N E RR
33 cks, S C RR

BOSTON DOMESTIC RECEIPTS.

For week ending March 23.

COTTONSEED MEAL—520 bu, F RR
GREASE—57 pgs, B & A RR
33 pgs, F RR
101 pgs, B & M RR
45 pgs, O C RR
6 pgs, B & P RR
27 pgs, N Y & N E RR
13 pgs, by sea
OLEO—619 pgs, B & P RR
562 pgs, B & M RR
2,362 pgs, F RR
1,385 pgs, B & O RR
TALLOW—30 pgs, B & A RR
112 pgs, F RR
15 pgs, by sea
124 pgs, O C RR
1 pg, N Y & N E RR
161 pgs, B & M RR

NEW ORLEANS DOMESTIC RECEIPTS.

For week ending March 21.

ALCOHOL—14 bbls, Ill C RR
ASAHALT—62 bbls, S P RR
BONES—1,270 sks, 1 car, S P RR
1 car, T & P RR
151 cars, str, Lockport
COTTONSEED—4,488 sks, str, Monroe
158 sks, str, Camden
394 sks, 11 cars, T & P RR
14,002 sks, str, Shreveport
1 car, Ill C RR
775 sks, str, Waterloo
1,597 sks, str, Luna
570 sks, str Lakeport
5,951 sks, str, Warsaw
6,404 sks, str, Cane River
40,935 sks, Gaines Landing
3,400 sks, str, Vicksburg
2,081 sks, str, Washington
3,588 sks, L, N O & T RR
HULLS—8 cars, S P RR
MEAL—11,834 sks, L, N O & T RR
6,678 sks, T & P RR
FERTILIZERS—400 sks, L, N O & T RR
1 car, N O & N E RR
200 sks, T & P RR
GLUCOSE—423 bbls, L, N O & T RR
150 bbls, L & N RR
639 bbls, Ill C RR
OIL—1 tank, 504 bbls, S P RR
1 car, L, N O & T RR
349 bbls, T & P RR
4 cars, 83 bbls, Ill C RR
2 cars, N O & N E RR
56 bbls, L & N RR
CAKE —1,269 sks, L, N O & T RR
COTTONSEED—1 tank, S P RR
OCHRE—116 bbls, L & N RR
NAPTHA—3 cars, Ill C RR
SOAP—500 cs, L, N O & T RR
STOCK—1 car, T & P RR
TALLOW—12 bbls, S P RR
TAR—2 cars, N O & N E RR

EXPORTS FROM NEW YORK.

For week ending March 24.

ALCOHOL—20 bbls, $300 Seguranca, St Thomas
46,000 gls Amalfi, Hamburg
ASPHALT—1 bbl $120 Greece, Liverpool
DYEWOOD, EXT—41 bbls, $761 Greece, Liverpool
GLUCOSE—475 bbls, $5,225 Runic Liverpool
5 bbls, $150 Werkendam, Rotterdam
GRAPE SUGAR—750 bgs $1,875 Horrox, Liverpool
GREASE—25 bbls $129 M Swan, Buenos Ayres
100 bbls $908 Amalfi, Hamburg
150 bbls $1,370 Euphrates, Hull
OIL, BEEF—275 tcs $8,560 Werken dam Rotterdam
100 tcs $3,530 Rugia, Hamburg
CAKE—425 bgs $1,348 Benlarig Newcastle
755 bgs $2,850 Jersey City, Bristol
1,500 bgs $5,925 Jersey City, Bristol
1,500 bgs, $5,925 Jersey City, Bristol
700 bgs $3,190 Ludgate Hill, London
200 bgs $730 Etiopia, Glasgow
COTTONSEED—22,500 gls $8,350 Werkendam, Rotterdam
15,100 gls $4,680 Werkendam, Rotterdam
1,296 gls $1,475 Friesland, Antwerp
200 gls $80 City of Berlin, Liverpool
7,500 gls $7,800 Gellert, Hamburg
1,021 gls $342 Seguranca, Rio de Janeiro
5,000 gls $1,500 Neustria, Marseilles
5,000 gls $1,500 Neustria, Marseilles
10,000 gls $3,600 Neustria, Marseilles
3,020 gls $918 Neustria, Marseilles
12,598 gls $3,466 Neustria, Marseilles
50 gls $21 Alps, Trinidad
512 gls $187 Finance, Pernambuco
300 gls $122 Finance, Bahia
9,100 gls $3,375 Werkendam, Rotterdam
2,650 gls $950 Werkendam, Rotterdam
28,264 gls $9,580 Werkendam, Rotterdam
2,500 gls $5,500 La Normandie, Havre
101 gls $30 Cd Condal, Progreso
2,000 gls $675 Euphrates, Trieste
2,503 gls $804 Euphrates, Hull
196 gls $74 Yucatan, Progreso
100 gls $36 Yucatan, Progreso
530 gls $158 Yucatan, Progreso
LARD—960 gls $596 Germanic, Melbourne
500 gls $280 La Normandie, Havre
LINSEED —70 bbls $1,680 Lampasas Colon
500 bbls $63 Alvo, Jeremie
LUB—25,000 gls $3,228 Runic, Liverpool
18,073 gls $2,600 Runic, Liverpool
11,000 gls $1,020 Runic, Liverpool
6,000 gls $700 Runic, Liverpool
31,220 gls $4,410 Friesland, Antwerp
4,978 gls $600 City of Berlin, Liverpool
3,064 gls $1,226 City of Berlin, Liverpool
26,250 gls $3,144 Gellert, Hamburg
16,250 gls $1,950 Benlarig, Newcastle
3,000 gls $1,000 W Gordan, Santos
1,250 gls $400 W B Flint, Adelaide
OIL LINSEED—2,500 gls $350 Jersey City, Bristol
11,000 gls $1,320 Neustria, Marseilles
1,252 gls $229 M Swan, Buenos Ayres
500 gls $325 M Swan, Buenos Ayres
2,500 gls $8 6 W B Flint, Adelaide
6,000 gls $1,940 Greece, Liverpool
850 gls $430 Greece, Liverpool
1,480 gls $250 Ethiopia, Glasgow
2,500 gls $483 Germanic, Melbourne
500 gls $360 Amalfi, Hamburg
65,500 gls $7,860 Collingham, Dunkirk
3,750 gls $2,130 La Normandie, Havre
500 gls $210 Hiram, Cape Town
12,480 gls $2,250 Rugia, Hamburg
36,100 gls $6,354 Cd Condal, Vera Cruz
47,500 gls $5,700 St Pancras, Liverpool
MEAL—300 bgs $525 Alps, Trinidad
30 puns $375 Alps, Trinidad
PEPPERMINT—6 cs $300 La Normandie, Havre
PARAFFINE WAX—100 bbls $6,250 Rosse, Liverpool
130 bbls $2,325 Ethiopia, Glasgow
75 bbls $1,340 Ethiopia, Glasgow
POTASH—50 bbls $1,700 La Normandie, Havre
ROSIN—200 bbls $350 Bessie E Crane, Bahia
100 bbls $265 Normandy, Rio de Janeiro
100 bbls $247 Normandy, Rio de Janeiro
150 bbls $425 Normandy, Rio de Janeiro
400 bbls $1,350 Normandy, Rio de Janeiro
150 bbls $425 Normandy, Rio de Janeiro
160 bbls $288 Germanic, Melbourne
250 bbls $500 W Gordon, Santos
150 bbls $312 W Gordon, Santos
700 bbls $1,380 W Gordon, Santos
50 bbls $290 M Swan, Buenos Ayres
200 bbls $1,020 M Swan, Buenos Ayres
497 bbls $1,491 Ethiopia, Glasgow
100 bbls $375 Finance, Para
200 bbls $575 M B Kohrsch, Corral
300 bbls $700 Catania, Pernambuco
100 bbls $692 Yucatan, Vera Cruz
TALLOW—30 hhds $1,748 City of Berlin, Liverpool
65 tcs $1,336 Gellert, Hamburg
50 tcs $1,500 Greece, Liverpool
20 tcs $630 Ethiopia, Glasgow
1,368 tcs $39,304 Werkendam, Rotterdam
65 tcs $1,233 Rugia, Hamburg
TURPENTINE—1,000 gls $440 Normandy, Rio de Janeiro
300 gls $127 Seguranca, Rio de Janeiro
2,000 gls $882 W Gerdon, Santos
250 gls $115 M B Kohrsch, Corral
500 gls $230 Amazoneuse, Pernambuco
VARNISH—36 cs $763 Germanic, Melbourne
20 cs $279 Germanic, Melbourne
14 cs $151 Germanic, Melbourne
19 pgs $535 Corean, Glasgow
WAX—300 cs $4,070 Germanic, Melbourne
REF'D—350 pgs $76,560 Marie, Hamburg

Philadelphia Exports.

For week ending Mar 18.

ASPHALT—700 bbls, Switzerland, Antwerp
BONE BLACK—10 bbls, Lord Clive, Liverpool
OIL—88 bbls, Switzerland, Antwerp
1,500 bbls, Lord Clive, Liverpool
NEATSFOOT—8 bbls, Lord Clive, Liverpool

Baltimore Exports.

For week ending Mch. 17.

BARK—576 bgs, Gothia, Hamburg
EXT—250 cs, Oldenburg, Bremen
GROUND—200 sks, Prodano, Havre
BONES—50 sks, B King, London
61,355lb, Patapsco, Rotterdam
GREASE—26,483 bbls, Queensmore, Liverpool
60,000 bbls, B King, London
BONE—267 bgs, Prodano, Havre
OIL CAKE—447,970lb, Teelin Head, Cork
333,790lb, Queensmore, Liverpool
COTTONSEED—15,550 gls, Urbino, Rotterdam
250 gls, Patapsco, Rotterdam
LARD—3,150 gls, B King, London
LUB—3,500 gls, Amarynthia, Glasgow
3,000 gls, Prodano, Havre
OLEO—260,609lb, Urbino, Rotterdam
3,000lb, Oldenburg, Bremen
28,000lb, Patapsco, Rotterdam
TALLOW—500 gls, Amarynthia, Glasgow
PARAFFINE WAX-121,922lb, Queensmore, Liverpool
TALLOW—607,600lb, Urbino, Rotterdam
48,775lb, Slavonia, Hamburg
640,800lb, Patapsco, Rotterdam

Boston Exports.

For week ending March 22.

AMMONIA—12 cs, Yarmouth, Yarmouth
BEESWAX—10 cs, Columbian, Liverpool
2 bgs, Columbian, Liverpool
GREASE—69 bbls, Parkmore, Liverpool
50 bbls, Inchgarvie, Rotterdam
201 bbls, Palestine, Antwerp
275 hhds, Palestine, Antwerp
OIL—10 bbls, Leader, Lockport
3 hf bbls, Leader, Lockport
14 cs, Leader, Lockport
CAKE—720 bgs, Roman, Liverpool
645 bgs, Palestine, Liverpool
COAL—10,000 cs, L A Davis, Paysandu
SPERM—100 bbls, Columbian, Liverpool
TALLOW — 248 tcs, Inchgarvie, Rotterdam
POTASH—10 bbls, Sarmatian, Glasgow
PITCH —19 bbls, Premier, Halifax
SOAP—5,000 cs, H W Palmer, Zanzibar
TALLOW—117 bbls, Palestine, Antwerp
60 bbls, Sarmatian, Glasgow
68 hhds, Palestine, Antwerp

New Orleans Exports.

For week ending Mch. 20

COTTONSEED—200 sks, Australian Liverpool
301 sks, Cuban, Liverpool
MEAL—11,200 sks, Incharran, Antwerp
LARD—11,900 pigs, Orion, Liverpool
OIL, CAKE—1,893 sks, Australian Liverpool
1,640 sks, Incharran, Antwerp
1,080 sks, Atlantic, Havre
COTTONSEED—37,500 gls, Cheruskia, Hamburg

San Francisco Exports.

For week ending Mch. 12.

CEMENT—393 bbls $1,261 Ceylon, Honolulu
DRUGS—11 pgs $293 Vine, Mexico
4 pgs $106 Anna, Kahului
13 pgs $117 Harvester, Hilo
FERTILIZER—802 cks $1,754 Robt Lewers, Honolulu
OIL CAKE—113 sks Eva, Mahukona
COAL—100 cs $195 Eva, Mahukona
100 cs $193 Anna, Kahului
100 cs $183 Harvester, Hilo
900 cs $1,636 Robt Lewers, Honolulu
103 cs $201 Eva, Mahukona
LINSEED—200 gls $151 Harvester, Hilo
368 gls $176 Consuelo, Honolulu
LUB—20 pgs $122 Consuelo, Honolulu
WHALE—1,017 gls $415 City of Peking, China

MERCK & CO. 71 & 73 William Street New York
Importers, Manufacturers and Exporters of
CHEMICALS AND FINE DRUGS
Medicinal, Technical and Analytical.

GREASES for EXPORT

We are now making GREASES for Export a specialty, having erected large works for that purpose,

We guarantee our LUBRICATING and AXLE GREASES as being SECOND to NONE in point of QUALITY and offer them at MOST ADVANTAGEOUS PRICES

Thompson & Bedford Co.

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128 Pearl Street, New York

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LUBRICATING GREASE

For RAILROAD, MILL and MINING MACHINERY,

Export and Domestic Trade

Uniformity and Quality Guaranteed. Having Large Facilities, Orders will be Executed Promptly. Samples and Catalogues Furnished.

QUICKSILVER—10 flks $360 Vine, Mexico
TALLOW—3,626lb $160 City of Peking, Japan
TURPENTINE—100 gls $55 Robert Lewers, Honolulu
WHITE LEAD—12 pgs $59 Eva, Mahukona

Charleston Exports.

For week ending Mar. 22

ROSIN—1,435 bbls, Hans Tode, Rotterdam
TURPENTINE—100 cks, Hans Tode, Rotterdam

GOODS ON THE WAY TO THE UNITED STATES BY SAIL.

RECORD OF VESSELS.

Port & Name	Sailed	Last Reported.
Auckland.		
S of the East..	Dec 3....	
Calcutta.		
Eusemere.....	Dec 31...	
Hugh Cann...	Nov 7....	
M & E Cox....	Nov 10...	
Pharo.....	Nov 22...	
B Ambassad'r	Nov. 20..	
Regent.....	Nov. 29..	
Trojan.....	Dec. 4...	
Vandura.....	Dec 9..	
Arklow.....	Dec 27...	
Joseph	Dec 30...	
London Hill.	Dec 16...	
City of Phila..	Dec 31...	
Marpesia.....	Feb 1....	
Glencona.....	Feb 10...	
Singapore.		
Samar		Loading
Penobscot....	Dec 11..	
Western Bell.	Nov 27..	
Antioch.....	Jan. 1...	
W Hales.....	Jan 16..	
Vanloo.....	Jan 19..	
Abyssinia....	Jan 16..	
W. C. South America.		
Stamboul...		Loading Sept 15

Auckland

TO NEW YORK

Star of the East, 5,783 cs gum Kauri, 59 sks gum Kauri, 354 bls flax

Calcutta

TO NEW YORK

Pharo, 1,323 bgs saltpeter, 1,000 bgs cutch, 500 bgs turmeric
Regent, 2,496 bgs saltpeter, 1,639 bgs cutch
Joseph, 2,015 bgs saltpeter, 461 bags cutch
Loudon Hill, 2,187 bgs saltpeter, 1,200 bgs cutch, 122 chts indigo, 1,195 bgs castor seed
Eusemere, 215 chts indigo, 3,364 bags castor beans
Lindhurst, 212 chts indigo, 50 cs button lac, 900 bgs castor beans
Marpesia, 3,673 bgs saltpeter, 50 bgs cutch, 423 cs indigo, 300 bgs turmeric, 200 cs asafoetida
Glencona, 2,792 bgs saltpeter, 3,201 bgs cutch, 9,271 bgs linseed, 2,388 bgs castor seed, 317 cs indigo

TO BOSTON

Vandura, 1,262 bgs saltpeter, 60 cases indigo
Arklow, 1,245 bags saltpeter, 49 cases indigo
City of Philadelphia, 183 chts indigo
Trojan, 1,330 bgs saltpeter, 1,150 bgs turmeric

Singapore

TO NEW YORK

Samar, 7 536 bales gambier
Penobscot, 2,125 bales gambier, 3,570 pcls gum copal, 85 pcls gum damar, 3,910 pcls flake tapioca, 3,378 pcls pearl tapioca
Wm Hale, 2,200 bales gambier, 2,121 pcls black pepper, 171 pcls white pepper, 1,796 pcls copal gum, 1,225 pcls flake tapioca, 1,932 pcls pearl tapioca
Vanloo, 3,800 bales, gambier

TO BOSTON

Antioch, 2,500 bales gambier, 464 pcls copal gum, 589 pcls pearl tapioca.
Abyssinia, 2,900 bls gambier, 592 pcls copal gum, 421 pcls pearl tapioca

West Coast South America

TO PHILADELPHIA

Stamboul, 12,000 bgs nitrate soda

TOTAL IMPORTS AT NEW YORK.

In the following table we give the total imports, in packages unless otherwise specified, and their value at the port of New York, for week ending March 25, 1892:

	Quantity.	Value.
Bottles	....	$ 4,948
Glass, plate	86	12,291
Glass, window	15,278	19,675
Lookingglass plate	25	4,226
Annatto	15	300
Acid, carbolic	6	263
Acid, citric	100	164
Acid, oxalic	84	3,075
Acid, picric	25	397
Acid, all other	110	7,445
Aniline colors	442	29,269
Aniline salt	214	13,248
Ammonia, muriate of	24	1,002
Ammonia, sal	92	3,763
Ammonia, sulphate	424	2,540
Argols	840	57,650
Alizarine	217	18,069
Asphalt	....	2,951
Balsam copaiba	140	7,433
Balsam, all other	6	524
Bark	24	320
Barytes	35	27
Bay rum	56	1,449
Bleaching powder	798	16,385
Brimstone	....	28,942
Bronze powder	....	2,729
Buchu leaves	16	618
Butter, cocao	100	4,540
Chalk	....	292
Chemical salt	996	3,669
Chicory	1,029	2,055
Colocynth	18	648
Cudbear	5	448
Dragons blood	2	70
Divi divi	505	1,607
Dyewood extract	277	5,337
Ergot	25	1,817
Fish sounds	16	436
Flowers, lavender	1	25
Flowers, all other	27	358
Fullers' earth	180	140
Gelatine	469	8,695
Glucose	1	5
Glycerine	436	27,819
Gum, arabic	66	4,678
Gum, animi	40	3,907
Gum, asphaltum	199	850
Gum, asafœtida	24	846
Gum, aloes	7	419
Gum, chicle	636	29,554
Gum, camphor	406	8,141
Gum, kaurie	4,087	106,477
Gum, licorice	81	2,347
Gum, shellac	466	13,668
Gum, senegal	420	10,597
Gum, tragacanth	43	3,401
Gum, all other	1	24
Glue	104	2,130
Indigo	384	75,214
Indigo auxiliary	61	3,472
Indigo, carmine of	10	1,343
Indigo extract	22	1,258
Isinglass	1	404
Leeches	4	58
Manganese	37	288
Manure salt	....	32,948
Mica	248	1,110
Morphine	11	3,340
Myrobolanes, ext	50	636
Nutgalls	30	1,012
Archil, liquor	35	2,175
Oxide of zinc	150	1,781
Oil, almonds	17	515
Oil, bergamot	10	559
Oil, camphor	604	1,461
Oil, cassia	373	19,637
Oil, geranium	7	25
Oil, linseed	2	53
Oil, lavender	3	235
Oil, neroli	3	657
Oil, origanum	45	574
Oil, orange	12	784
Oil, olive	2,930	15,624
Oil, palm	39	2,526
Oil, rose	4	4,439
Oil, rosemary	3	220
Oil, sesame	60	1,654
Oil, sandalwood	1	82
Oil, thyme	53	749
Oil, other essential	9	883
Oil, all other	32	382
Opium	32	8,314
Orange peel	100	700
Paints, unspecified	....	7,215
Paint, chrome yellow	19	548
Paint, drop black	20	202
Paint, ocher	97	528
Paint, orange mineral	26	870
Paint, sienna	83	850
Paint, umber	40	164
Paint, vermilion	7	761
Pitch	1,020	2,593
Potash, chloride	650	8,083
Potash, carbonate	39	819
Potash, crude	35	1,437
Potash, prussiate	99	12,343
Potato starch	5	52
Quicksilver	41	1,449
Quinine	96	14,213
Root, gentian	25	149
Root, ipecac	11	2,276
Root, jalap	2	104
Root, licorice	3,725	22,392
Root, sarsaparilla	184	7,214
Root, all other	146	1,984
Saffron extract	3	672
Saltpeter	530	3,337
Senna	40	2,084
Soda, ash	2,860	48,238
Soda, caustic	1,510	23,936
Soda, hyposulphite	320	608
Sponges	531	5,219
Sumac	1,680	6,623
Sugar of milk	6	200
Tar	305	879
Talc	302	300
Turmeric	100	482
Ultramarine	30	1,743
Vanilla beans	13	4,450

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Bleached Cardamoms
Spanish Saffron

Varnish	32	2,311
Verdigris	15	1,191
Optical instruments	4	1,750
Surgical instruments	5	790
Bristles	53	12,103
Rennets	14	1,853
Rennets, prepared	52	798
Alcohol	5	97
Brandy	285	5,329
Gin	138	1,148
Mineral water	372	1,047
Rum	35	579
Whiskey	506	22,445
Lead, pigs	6,695	42,368
Cassia	6,750	19,122
Chillies	249	2,409
Cloves	200	2,340
Ginger	347	3,197
Mustard	223	3,782
Nutmegs	17	1,874
Pepper	1,335	1,317
Pimento	160	987
Corkwood	....	78,387
Empty barrels	....	1,088
Fustic	....	6,188
Logwood, M lbs	1,897	13,954
Blacking	....	1,983
Brushes	....	10,298
Candles	....	304
Clay	....	2,125
Carbon	....	390
Corks	....	6,528
Cocoa, bgs	5,226	114,149
Hops	143	16,130
Musk	4	4,324
Portland cement	11,355	15,837
Perfumery	88	8,397
Polishing powder	....	261
Seed, annatto	115	764
Seed, anise	75	700
Seed, canary	200	1,031
Seed, caraway	100	482
Seed, castor	300	555
Seed, coriander	798	2,355
Seed, lycopodium	4	313
Seed, linseed	10	30
Soap, castile	2,074	5,827
Soap, all other	142	11,214
Soap stock	10	180
Stone, rotten	....	818
Wax	...	2,098
Whalebone	....	19

Some Experiments on Petroleum Solidification.

(Continued from page 31.)

raise the temperature to 400° F. if necessary. At this high temperature the product is liquid and the process is necessarily complicated by the special closed apparatus required when a body like paraffin with volatile constituents is raised to such a temperature.

Lawson's patent and one by Stitt are both for incorporating petroleum in soap so as to make an improved detergent, and are therefore somewhat foreign to this inquiry.

B.—SOLIDIFICATION WITH VEGETABLE SAPONIFIERS.

Experiments have been tried with the bark of Quillaia saponaria which has long been known as producing a semi solid mass when agitated with a mixture of oil and water. Saponin, the glucoside present in this bark, probably gives it this property, and as it is also contained in horse chestnuts, soap worts, and many plants of the sapindaceæ and mimoseæ, it may be possible to substitute one or other of these for the saponaria.

The use of Quillaia bark has been covered by two patents, but in my experiments, with it the products have not equaled in hardness nor consistency those obtained by the use of soap.

The best results obtained by its use are given below.

Experiments.	Results.
1. After Grave's process, using 10 per ct. of saponaria decoction.	A stiff pinkish, opaque jelly.
2. After Stringfellow's patent, using 1 per cent. ground bark and afterwards adding 10 per cent. water.	A stiff white opaque jelly, which slowly yields its petroleum as a liquid.
3. The same, but using 5 per cent. of bark and the same quantity of water.	White opaque jelly, more permanent than No. 2.

The essential difference in these two methods of working is the substitution of the powdered bark and water for the decoction in the latter process. There is very little difference in the appearance of the product, but it is stated that it is more ecenomical to use the powdered bark, although when its extraction is properly conducted, the whole of the saponin should be present in the decoction, and thus prevent any waste of the bark.

From the low price of saponaria bark at the present time and the small percentage required, it is probably one of the cheapest materials to use for solidifying oils for transport and storage.

C.—SOLIDIFICATION WITH OTHER REAGENTS.

The similarity between the absorption of water and paraffin by soap naturally led one to experiment with other materials which form solid masses with water. Gelatin, glue, albumen, casein, gum, and many mineral substances suggest themselves, but on trying these bodies under different conditions no very satisfactory results were obtained.

1. *Gelatin*—On melting from 3—8 per cent. of size with a small quantity on the water-bath, and adding the petroleum, after violent agitation and cooling the mixture solidifies to a tough jelly. With the smaller percentages of gelatin, it was easy to remove the oil mechanically retained by the jelly by squeezing, and on standing it slowly oozed away, and when the percentage of gelatin was as much as 8 per cent. the amount of water required for solution was sufficient to prevent the paraffin from burning. When bichromate was added to the gelatin mixture before cooling, the product also turned out unsatisfactory, and with tannic acid the product obtained was so brittle that it is difficult to see any use for such a material.

2. Albumen coagulated by warming and with acetic acid did not retain any petroleum.

3. Milk, milk extract, and casein likewise gave negative results.

4. Ghatti gum mucilage and ferric chloride give, as is well known, a thick gelatinous mass, but the formation of this compound in the presence of petroleum does not prevent the latter from being easily removed again from the mixture.

5. Inorganic precipitation, e.g., alum by ammonia, calcium chloride and borax, zinc sulphate and soda, calcium chloride and a sulphate, gave negative results.

The reliquefaction of these various products by means of heat or by appropriate reagents is a question of considerable practical importance. A ready means of solidifying petroleum for transport and subsequent reliquefation for use would be a desideratum. Where saponaria bark is the agent employed, the solid can be reliquefied by the addition of a small quantity of dilute acid, probably owing to the decomposition of the glucose into its sugar and sapogenin. Stringfellow has claimed the use of acetic acid for this purpose, and recommends the use of 2½ per cent., which he pours over the surface of the jelly so as to entirely cover it. Mineral acids do not behave so well as acetic acid, although if the breaking up of the mass is due to the hydrolysis of the glucoside, dilute sulphuric acid would seem to be the most suitable. When a soap is employed, the oil can be reconverted into the liquid state by heat or by warming with a mineral acid. The completeness of the reliquefaction in the case of a soap-solified petroleum obviously depends on the nature of the fatty acid liberated from the soap. As I have already mentioned, free stearic acid and water form a translucent jelly with petroleum, hence if a stearate soap has been used, a warm acid will be required, and the the stearic acid liberated immediately removed from the warm oil if a liquid is again desired. With oleate soaps the same difficulty does not occur as oleic acid forms no solid product with petroleum.

The disadvantages of a solified petroleum which is liquid at a temperature below 100° C. are obvious if the material is to be used for burning puring purposes or as a constituent of briquettes. Stringfellow's saponaria product is stated not to flow when burnt; but apparently his jelly is not primarily intended to be used as a fuel. Many of the soap solidified products melt at a temperature below 100° C., and would be practically useless for such work. Probably a suitable material for a fuel could be obtained by incorporating the solidified petroleum with finely-divided porous mineral matter, such as kieselguhr or ground brick. Using the latter, I have found such a mixture to burn very well in the open air, and it might be advantageous to substitute such a lamp for outdoor illumination in place of the naphtha lamps at present employed. The Solid Petroleum Pioneer Company, recently formed to exploit a patent applied for by the Messrs. Clenhall, is apparently about to introduce such a mixture. It may, however, be interesting to mention in this connection that one of the earlier patentees (Eiseman) has already suggested the use of solidified petroleum for incorporation with sawdust, coal, &c., in the making of fuel. In my earlier experiments, using ammonium stearate for the solidification of petroleum, an attempt was made to overcome the difficulties met with in Russia, where this stearate has been used for the manufacture of petroleum candles. Apart from the objectionable smell which such candles emit, the loss of weight owing to the evaporation of the paraffin is considerable. Although only 10 per cent. of stearate is suggested in Russia, my own experiments indicate that about 20 per cent. of stearic acid must be incorporated to obtain a product as firm as ordinary candle material. The loss on exposure to the air may be in part prevented by protecting the surface of the candle with a glaze of some organic material imper vious to paraffin. When incorporated with coal dust, the solidified petroleum, if used in large amounts, can replace pitch in a briquette and form a block fuel which readily ignites.

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Quassia Wood.

[Written specially for the REPORTER.]

This wood, an important article of commerce, and which is included in the list of drugs, grows in great profusion almost everywhere in the island of Jamaica, West Indies. While traveling on the island, I saw many large growths of the quassia tree, or shrub, particularly in localities near the coast. But nowhere in the West Indies did I see so much quassia wood prepared for, and awaiting shipment, as at St. Ann's bay, where, near the shore my host, Mr. A. D. Jacobs, had cords of it, all prepared, cut into lengths and piled up, in readiness for the next lugger or steamer that would appear in the little coral reef bound harbor. The cutting and preparation of quassia presents no particularly interesting features. It is simply cut, the smaller branches trimmed off and thrown away, the larger branches, the trunks and larger roots being cut into convenient lengths. These are transported to the shore, sometimes in mule carts, sometimes on the backs of the little burros or donkeys, and not infrequently by the native women who take great bundles of quassia sticks upon their heads and trudge away with them over winding palm-shaded roads, up hill and down, often for miles, always pursuing that seemingly tireless swinging gait, only stopping to lay down their burdens and rest in the middle of the day when the sun is the hottest, when they sit in the shade and refresh themselves upon the sweet juice of joints of sugar cane, which no native is ever without, or to cook a few yams in the ashes of a fire which they build. This is their only repast, after which they help each other to load their bundles upon their heads, then trudge on again.

The quassia tree rarely exceeds ten or fifteen feet in height. It has beautiful, bright red flowers and large pinnate leaves. The flowers are valued on the island for their stomachic properties.

The wood began to be known in Europe about the middle of the 18th century, and was more fully bronght into notice about 1756. Its use was first learned from the natives, the negroes calling it quassia, or quasha; and they employed it with great success as a remedy for fevers. Linnaeus published a dissertation on it in 1763, and it was he who gave the genus the name quassia from the name given it by the negroes who had made its medical qualities known. There are two kinds of quassia, however, both of which are found growing in the West Indies, and is known as quassia amara, which is rarely found larger than a small shrub, while the other, which grows larger, is known as Q., Piceraena, or Simaruba excelsa. The latter grows in the form of a large tree, and all over Jamaica it grows luxuriantly, and is cut and shipped by the cords, in the form of logs sawed into convenient lengths for loading into a vessel's hold. It possesses the same quality as the smaller kind, only in an inferior degree, and the lack in quality is compensated by the supply, which is practically unlimited in all the Caribbean islands south of Cuba. It is from the latter that the quassia chip of commerce and the quassia cup and bowls, so familiar to all, are made.

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DRUG MARKET.

Note—*Our prices are for large lots except when otherwise specified, and buyers of small quantities must expect to pay an advance on these figures.*

Complete prices current will be found on pages 48 and 44.

SATURDAY EVENING, March 26, 1892.

The entire drug trade has been unusually quiet during the past week. Opium is still in the same dull position in which we left it last week and the quinine situation is more anomalous than before. California mustard seed is in a somewhat interesting condition and there is considerable speculation as to the fate of the S. S. Lucille with her cargo of yellow. The only other seeds of interest, anise and celery, we notice in our editorial columns. The articles which have fluctuated in price are not numerous, and are tabulated below:

ADVANCED.	DECLINED.
Benzoic Acid.	Oil Cassia.
Juniper Berries.	Oil Cubeb.
Angelica Root.	Gum Chicle.
Ginger, Cochin.	

Opium.

The market has been extremely dull, the remarkably low price having utterly failed to stimulate demand. There has been some jobbing trade, but nothing in a large way has occurred to disturb the calm surface of the market. Prices, as at present quoted are $1 65@1 67½c in case lots, and $1 67½@1 70 in broken lots. High test goods are held at higher prices. From an English contemporary we take the following description of the Smyrna market on February 27 last: "The market has been much more active in February than in the previous month, the sales amounting to 300 cases, the greater part of which were for the United States. The Smyrna stock in first and second hands is now reduced to about 1,350 cases, and it is estimated that 250 or 300 still remain in the producing districts. Out of this quantity it is probable that not more than 600 will be required to meet the demand until the coming crop is fit for shipment in July next. Hitherto nothing has occurred to injure the young opium plants. It is therefore hoped that there will be a good outturn again this year, provided the weather continues favorable until the crop is matured." It is possible that this last sentence may have some bearing on the present condition of prices.

Morphine.—There has been practically no change in the situation. Prices are quoted as follows: American, $1 65@1 95; English, $1 55@1 80; The demand is reported good, and transactions of a jobbing character are noted.

Quinine.

The situation becomes more impossible to understand, not to say to explain, as time goes on. Again the London bark sales are reported to have gone off at an advance, but instead of an advance in the salt we hear of small sales made this week at 18¾c. It is stated that 18½c was bid, but met with no response. This, however, scarcely represents the tone of the market, which generally has not fallen to quite such a low ebb. The quotations remain at 19@19½c, as to holder. Latest London mail advices are as follows: "Very little business is doing, only a few odd thousand ounces having sold lately at 9¾@9¾d. There is not much offering at the lower of these quotations, however. The imports of cinchona during the last fortnight have been comparatively small, consisting of 1,926 bales, of which about two-thirds are from India" These quotations show an advance of about one farthing on last week's.

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Miscellaneous.

Alcohol.—An unchanged market is reported, with the following quotations: 10-bbl lots $2 20; anything less than 10-bbl lots, $2 22@2 24. These prices are subject to the regular conditional rebate of 7c per proof gallon.

Wood Alcohol.—No change is reported in this article. Prices are firmly maintained at $1 30 for 95%, $1 35 for 97%, and $1 40@1 60 as to brand, for purified, with a discount of 2½% for 5-bbl lots.

Benzoic Acid.—An advance is reported in consequence of this article being no longer produced as a by-product, the aniline makers having adopted another method of proceedure. Prices now stand at 43@45c, as to quantity and holder.

Citric Acid.—Holders are adhering firmly to the advanced price of 46c. Stocks are reported very light.

Borax.—Quite an active demand is reported and prices are firmly maintained.

Bromides.—The market is in much the same position as at last writing, domestic being quoted at 23@25c, foreign, in 5 case lots; 21½c for crystals.

Castor Oil.—The market is firm, and a steady demand is reported at the advanced prices.

Cuttlefish Bone.—The market is very flat and the price, 14c, is said to be lower than the European quotation.

Cod Liver Oil.—A stiffer tone is manifested both here and abroad. The tendency is upward. From the Lofoden fisheries, under the date of March 5th, we get the following information: 3,890 hectoliters of oil and 6,400,000 cod fish taken up to date. Cable advices from Norway quote $15 per barrel finest Lofoden, f. o. b. Norway. This is equal to $21 laid down in New York.

Cacao Butter.—The range for this article is a wide one, being from 28@38c as to kind, quality, quantity, etc.

Ergot.—The same stringency still oppresses the market and while some holders are quoting 50c to arrive and 55c spot, others are still holding firm at 62½@70c as to variety and quantity. The quotations are reported to be merely nominal.

Glycerine.—So activity is reported, but the prices are firmly maintained.

Lycopodium.—The market is very strong and prices have advanced, and are now quoted at 44@48c, as to holder. In our editorial columns we go into the matter more fully.

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Manna.—The general quotations remain unchanged at 25@25½c for small and 60@70c for large flake, though one holder is demanding 27c for small flake, and we hear of a sale of 2 cases at that price.

Menthol.—The demand is good, but the stocks are very light and concentrated The prices are very firmly maintained, $2 60 being paid for ordinary quality without brand. The range is up to $2 85 as to quality.

Quicksilver.—The market remains firm at 59@60c. From London we get the following comparative table of the approximate number of bottles imported and exported during stated periods of the years 1890, 1891 and 1892: Imports from Jan. 1 to Feb. 29, 1890, 23,069 bottles, 1891, 17,607 bottles, 1892, 11,763 bottles; Exports from Jan. 1 to Feb. 29, 1890, 10,389 bottles, 1891, 7,330 bottles, 1892, 5,997 bottles, ; Imports for Feb., 1890, 11,853 bottles, 1891, 16,505 bottles, 1892, 5,573 bottles; Exports for Feb., 1890, 4,611 bottles, 1891, 3,370, 1892, 3,572; Price per bottle 1890, about £9 5s, 1891, £8 12s 6d, 1892, £7 2s 6d; Stock in London to Feb, 29, 53,500 bottles, 1891, 36,500 bottles, 1892, 28,000 bottles.

Sugar of Milk.—The condition of the market remains the same, and prices are unchanged.

Balsams.

Copaiba.—A wide range is quoted, the prices being 36@48c as to variety, quantity and holder.

Fir.—A good demand continues at the prices last quoted.

Peru.—There is no stock in first hands, quotations in a jobbing way ranging from $1 12½@1 20 as to holder.

Tolu.—There is no change in price to record, and the market is reported dull.

Barks.

Cottonwood.—Prices are firmly maintained and great scarcity prevails.

Sassafras.—This bark is also reported scarce, really prime goods being unobtainable, and quotations remain firm at 10@12c.

Beans.

Castor.—There is no supply and consequently no market. The nominal quotation is $1 50 in car lots.

Tonka.—A good demand for prime Angostura is reported, prices ranging from $1 85@2, as to quality, quantity and holder.

Vanilla.—There is a steady consumptive demand, but as yet it is a little early for any great activity. The quotation is $3@8, as to kind and quality.

Berries.

Cubeb.—These berries are reported firmer abroad. The same wide range is maintained in this market though in some quarters 57½c is the lowest quoted.

Juniper.—The demand is steady and a stight advance is noted, the present quotations being 2½@2¾c, as to quality.

Essential Oils.

Bergamot.—Sales are reported to be going on steadily, though no large movements have come to light. The price is unchanged at $3@3 35.

Camphor.—The sales are reported good, and the range is from 6¾@8c, as to quality, with several tons sold at full prices.

Cassia.—Some arrivals are reported, and an easier feeling seems to prevail, 92½c@$1 as to holder and quantity being the quotations.

Citronella.—The market is reported firm, with some activity, the quotations being 26@28c. Sales of some 2,000 lbs are reported within that range.

Cloves.—Buds are down to 60c in round lots including packages, and stems have followed their example.

Eucalyptus.—Trade in this article is reported dull, with quotations at $1 25 @1 75 as to holder, etc.

Lemon.—The market retains its stiff tone, the previous prices, $2 75@ 2 85, being firmly adhered to. Forty-five coppers which arrived on the 24th inst. were all sold to arrive, at full prices. The demand continues good.

Lemongrass.—The range is from 51 @65c, as to holder. Sales are reported at the inside figure.

Orange.—The position of this oil is generally reported strong at $2 45@ $2 75, though we understand that $2 35 would not be refused in some quarters.

Sassafras.—The market is quiet with the old range of 38@41c still ruling.

Flowers.

Chamomile.—The quotations vary considerably as to quality, etc., old crop Roman being quoted as low as 10@15c, and new crop 24@28c.

Saffron.—The low prices of Valencia seem to have stimulated more demand, and this may have the effect of advancing the price, which at present sticks down to 6 50@7 50.

Gums.

Asafœtida.—Considerable discontent is being manifested by some holders, who complain of the quietude of the market. We hear of no change in price, 20@45c, as to kind and quality, representing the market as nearly as possible. About 8,000 lbs, which had been sold to arrive, were washed overboard and lost while on their way here, and this may have some effect upon our market.

Camphor.—The market is firm, and business is transacted on the basis quoted last week, 42½@43c in bbls, 43½@44c in cases.

Chicle.—The article has suffered a contiderable decline, and is now quoted at 24@25c. The market is quiet.

Tragacanth.—The demand continues good and prices are firmly maintained at 25@50c as to quality.

Herbs and Leaves.

Buchu.—There is a very fair market for prime goods, but yellow or low grade goods can be bought at 10@12c.

Belladona.—The market is very quiet, with unchanged prices.

Coca.—The prices are firmly maintained at 50@65c as to kind and quality but very little activity is reported.

Digitalis.—Little is doing, the quotation bring 8@12c as to quality and holder.

Laurel.—The range as to quality is 3¾@4c, but no great activity is noted.

Senna.—Alexandria is reported exceedingly scarce in the London market. The quotations are 17@42c as to quality. Tinnevelly is quoted all the way from 4¾@15c as quality.

Roots.

Angelica.—The supplies are reported limited and an advance in price is noted. We quote 15@20c, as the range.

Colombo.—Advices from abroad report an advance of 15%, but as yet this has not been reflected in our market.

Golden Seal.—The market is reported somewhat firmer, and both 24c and 25c have been paid

Ipecac.—This root is a little off and is quoted at $2 10@2 15.

Jamaica Ginger.—The market is quiet, but there is no change in price to note.

Jalap.—There have been no important transactions to note, prices being from 28@33c, as to quantity and quality.

Licorice.—The position remains the

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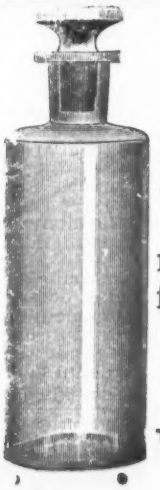

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same and sales are being made at previous prices.

Orris.—Verona is selling at the advanced price, 16@17c.

Senega.—The stock here is poor and the quotations are still given as 36@38c, as to quality.

Seeds.

Anise.—The market still retains its firm tone and Italian is quoted at 9@9½c, though less would probably be accepted for some of the seed which is here. The demand in England is reported moderate and the stocks limited.

Canary.—Of recent arrivals of 200 bags Sicily seed per SS. "California," a portion has been sold at 2⅞ ex-steamer. The range is up to 3c. The latest Smyra advices quote 8s 6d cost and freight. Here there is little or no business, quotations being nominal at 2@2¼c.

Caraway.—This seed is a shade stiffer, and prices range from 4¼@5c for '91 crop, and 5@5¼ for '90 crop.

Cardamom.—It is reported that the market abroad is higher by 2d. or 3d. per lb. This market has not been affected by the change.

Celery.—The market continues strong at the advanced price of 16c, some holders even asking more. The stocks are very light both here and abroad.

Coriander.—The market is quiet, prices varying from 2¼@3¼c. as to quality. Mail advices from London state that the market is exceedingly well stocked and that arrivals have continued large and in excess of immediate requirements. Fine bright seed on the spot is quoted at 9s@10s 6d per cwt.

Hemp.—No business of any consequence has come to light; on the contrary the market is reported dull and prices nominal at 2½@2¾c.

Mustard.—This seed maintains its firm position. Sales of California yellow have been made at 4½c in quantity. Since then the market has stiffened and 5c is now asked and sales reported at that figure. The supply is light and considerable anxiety is noted in regard to the fate of the "Lucille," which is now some six weeks overdue. Brown is strong and prices are unchanged at 4@4½c. Sales of 100 bags Bari, which is also in a strong position, with stiffer tendencies, are reported at 5c.

Rape.—German is quoted at 2¾@2⅞c, and English at 4@4½c, as to quality.

Spices.

Ginger.—An advance of ¼c is noted, the quotations ranging from 9¾@12c for Cochin and 6¾@7c for African or Calcutta. The supply is small.

Chillies and pimento continue in small supply and the market is consequently firm. Pepper is reviving and higher prices are quoted for arrivals.

Shellac.

The market here is absolutely without feature. Business is very dull and some discouragement is felt on account of the heavy shipments during the early part of the month. We quote prices as follows: D. C. 24@25c; Octagon B and similar grades 23½@24c; V. S. O. and diamond I 22½@23c; T. N. 19@20c; A. C. Garnet 19@20c. The prices on D. C. and V. S. O. might possibly be shaded somewhat in round lots.

Boston Drug Market.

[Special to the REPORTER.]

Opium.—Opium is in first-rate demand at the lower prices brought about by the new crop, which turned out to be a large one. There does not seem to be any feeling of weakness at: Cases, $1 75@1 80; powdered, $3 40.

Balsam Copaiba.—Arrivals of balsam copaiba have been so free of late as to have caused the market to decline. There is a fair demand, and it does not seem likely that there can be any serious accumulation of supply for any length of time.

Quinine.—There seems to be nothing new in quinine, but it is whispered around that the combination that was to have been sprung upon the credulous trade is still in the eyes of the projectors. German in bulk is quoted here at 22c.

Cod Liver Oil.—Reports from the sources of supply are to the effect that the catch promises to be a large one. As a result, Norwegian cod liver oil has dropped a dollar in price, and any further reports favoring a large catch would be quite likely to render the market still lower. Norwegian, $22 50@23 50; Newfoundland, 60@65c.

Chicago Drug Market.

[Special to the REPORTER.]

Opium.—Is lower, the gum selling at $1 75 with powdered unchanged. Morphine remains in statu quo.

Quinine.—Is lower, the best price for 100 ozs. averaging 20 cents with smaller quantities in proportion.

Essential Oils.—Oil of bergamot, exhibits a trifle more strength, while other essential oils show no change.

Glycerine.—Only a moderate consumptive inquiry is reported. Prices remain quotably unchanged, the volume of trade hardly equals that of a year ago. As a result, prices rule lower. To-day's prices are as follows: In bulk, about 13c; in barrels and drums about ½c higher, and in 50lb. tins (containers inclusive) 14@14½c.

Alcohol.—If the market depended on the normal relations subsisting between the grain and the manufactured output, one might look for a decline. On the contrary, alcohol is strongly held at the recent decline. 10 barrel lots are quotably $2 14, while single barrels are about $2 16. These are combination prices, yet there seems to be no disposition to cut under them.

Examination of Beeswax for Paraffin and Cerasin as Adulterants.*

Few articles of commerce, as extensively used, are more susceptible to easy and successful sophistications than beeswax. This is especially true when paraffin or cerasin, or both, is made the adulterant. Other adulterants as water, kaolin, starch, flour, resins, fatty bodies, gypsum, etc., were not considered in the tests made, from the fact that they are rarely or seldom employed for the purpose named. Various methods for the detection of paraffin and cerasin have been suggested and applied, most prominent of which is the one given by Allen in his Commercial Organic Analysis, vol. II., page 188.

The results obtained by the application of the sulphuric acid test, as detailed by Allen, led to some doubt as to its reliability in two particulars: the first being the possibility of failure to decompose all the beeswax at the temperature and in the time specified.

Second, this being true, whether or not some of the paraffin or cerasin might not be destroyed under the conditions which insured the complete decomposition of the beeswax.

The sulphuric acid test is carried out by heating five grams of the sample to 130° C. in a capacious flask with 50 c. c. of concentrated sulphuric acid. Charring takes place, and sulphur dioxide and other gases are evolved, causing the fluid to froth considerably. After about ten minutes the mixture becomes almost solid, when it is allowed to cool, the acid removed by washing with water and the residue treated with a little cold alcohol to remove adhering water. The filter with the contained black residue is then exhausted with hot ether, preferably in a Soxhlet's tube, when the ether yields the hydrocarbon wax on evaporation. It should be weighed and then again treated with sulphuric acid and the residue exhausted with ether as before, as a little beeswax is liable to escape decomposition during the first operation.

In applying this test it is necessary, in order to obtain as nearly a uniform temperature as possible, to stir the solution almost constantly after it has attained the temperature of 130° C.; in this way the temperature is kept almost uniform throughout, or as nearly so as possible.

Without the stirring the different strata in the container would be subjected to different degrees of temperature. So that if the temperature were adjusted to 130° C. for the lower stratum, the upper would be considerably less, and so for any other adjustment there would be a lack of uniformity of temperature, hence the necessity for the careful stirring during the heating process.

The U. S. P. test for paraffin as an adulterant consists in heating five grams of the wax in a flask for 15 minutes with 25 grams of sulphuric acid to 160° C. and the mixture diluted with water; no solid, waxlike body should separate.

Applying Allen's test, but extending the time to 15 minutes, observing the precautions previously mentioned, and further modifying it by finally dissolving the undecomposed wax or impurities in a given amount of chloroform and decanting an aliquot part for evaporation. [The chloroform was adopted in preference to ether, as it was found by several experiments to have in the cold a better solvent over cerasin and paraffin than was the case with ether.] Applying this test to a sample of yellow wax known to be pure, there was found to be after the first operation 22·8 per cent. of the wax undecomposed. Repeating the operation on this residue there still remained undecomposed 12·1 per cent.

A good grade of paraffine was then subjected to the same with the result that after the first treatment there remained undecomposed 81·6 per cent. and after the second treatment 64·8 per cent. remained undecomposed. From this it will be seen that even at the temperature specified the wax is not wholly decomposed on a repetition of the process, and further that this process applied to paraffine decomposes that body to a very appreciable extent.

Consequently a pure wax will be reported adulterated, while an adulterated wax will show probably a lower percentage of adulteration than that actually present, notwithstanding the compensation which occurs by reason of the wax not being entirely decomposed. As a result of these preliminary experiments I was led to make a further trial on pure wax at higher temperatures and for a longer period of digestion, with a view of fixing the lowest temperature and time that could be employed to fully decompose the wax, and having determined that point, to then obtain some idea of the extent of carbonization of cerasin and paraffin when treated similarly.

TREATMENT OF THE WAX.

A sample of beeswax known to be pure was treated successfully at 130°, 145° and 160° C. for thirty minutes and yielded respectfully of undecomposed wax 12·7 per cent. 6·0 per cent. and 0·0 per cent.

A second sample, also full believed to be pure, was treated exactly the same and yielded of uncarbonized wax 12·6 per cent. 6·1 per cent. and 0·0 per cent.

TREATMENT OF PARAFFIN AND CREASIN.

A sample of paraffin treated at 130° C. for fifteen minutes yielded 8.86 per cent. of residue, showing a carbonization equal to 18.4 per cent. and when the operation was repeated there mained 64.8 per cent of residue, showing a carbonization of 35.2 per cent.

When the same sample of paraffin was treated at 160° C. for thirty minutes the residue was only 30 per cent. thus showing that it had suffered carbonization to the surprising amount of 70 per cent. It will be remembered that this is the temperature, but not the time of the pharmaceutical test.

Cerasin treated at 160° C. for thirty minutes yielded 59·3 per cent. of residue and was therefore carbonized to the extent of 40·7 per cent.

INFLUENCE OF TEMPERATURE WITHOUT THE PRESENCE OF SULPAURIC ACID.

The question now arose as to how much the above loss was due to carbonization and how much to volatization at the high temperature employed. To settle this point paraffine and cersasin were heated on an air bath for sixty minutes at 160° C.; the paraffine lost 9·7 per cent., while the cerasin lost but 4·5 per cent., that volatilization, though comparatively slight, is not wholly to be ignored.

*Paper Read Before the Detroit Chemical Society. The Experiments were performed in the labratory of F. Stearns & Co., by C. C. SHERRARD, Ph. C.

Tests for the Purity of Oil or Wintergreen or Methyl Salicylate.

In a paper containing a review of some assumed tests for the discrimination of natural and synthetic oils of wintergreen, by Prof. Frederick B. Power, published in the Pharm. Rundschau, the author proves the fallacy of the tests hitherto published for distinguishing between the true oil of wintergreen and its usual substitute, oil of birch, on the one hand, and the artificial on the other. Oil of birch is absolutely identical with the synthetic oil, both consisting of pure methylsalicylate.

True oil of wintergreen differs from this only in containing about 0.3 per cent. of a hydrocarbon, supposed to be a terpene, but which Prof. Power suspects to belong to another class of bodies. [There is no practical way by which the true oil of wintergreen can be distinguished from the oil of birch or the artificial oil except by fractional distillation, which can only be done properly by an expert.]

It being therefore practically useless to attempt to discriminate between these three kinds of oil, it only remains to prove the absence of other oils or liquids which could be used as adulterants, such as oil of sassafras, oil of camphor, oil of turpentine, petroleum, etc.

To detect oil of sassafras, a test by nitrate acid has been given by the last Pharmacopœia, but, as Prof. Powers has ascertained, this test is dependent upon the time of contact as well as upon surrounding circumstances (temperature, etc.,) and therefore liable to error.

Prof. Powers, therefore, searched for a more reliable test, and reports his success in the following words:

This I have succeeded in accomplishing, and it is based upon the simple fact that methylsalicylate, when heated for a few minutes in a water bath with an aqueous five per cent. solution of sodium hydrate, forms a perfectly clear and complete solution, while most other oils—such as those of sassafras, camphor, turpentine, etc., as well as petroleum—by their insolubility, form a turpid mixture, and on cooling separate drops of oil, while at the same time the original odor of the wintergreen gives place to the distinctive odor of the adulterant.

This test is thus seen to have a very wide scope, and is capable of detecting comparatively small amounts of almost any oil which would be used as an adulterant. On adding the solution of sodium hydrate to the oil, a bulky white crystalline precipitate is at first produced, which is sodium methyl salicylate:

$$C_6H_4\begin{cases}ONa\\CO{-}OCH_3\end{cases}$$

But on heating in a water bath for a few minutes this is completely dissolved, and by a secondary decomposition sodium salicylate and methyl alcohol are formed:

$$C_6H_4\begin{cases}ONa\\CO{-}OCH_3\end{cases} + H_2O =$$

$$C_6H_4\begin{cases}OH\\CO{-}ONa\end{cases} + CH_3OH$$

It might be assumed that the so-called terpene of the natural oil of gaultheria (which has been proved by myself and others not to be present in the natural oil of birch, and which is, of course, not contained in synthetic methyl salicylate) would separate by the above treatment and impair the correctness of the test. This, however, is not the case, for only 1 cc. of the oil is required in connection with 10 cc. of the solution of sodium hydrate; and if it be remembered that the oil of gaultheria contains but about three-tenths of one per cent. of the so-called terpene, it can easily be understood that with so small a quantity of the oil it will remain dissolved in the liquid, and does not disturb to any extent the transparency of the latter. The practical application of the test may be formulated as follows:

If one cc. of oil (gaultheria, birch or synthetic methyl salicylate) contained in a capacious test tube 10 cc. of a five per cent. solution of sodium hydrate be added and the mixture agitated, a bulky, white, crystalline precipitate is produced; and if the tube, loosely corked, be subsequently placed in boiling water for about five minutes, with occasional agitation, a clear, colorless or faintly yellowish and complete solution should be obtained, without the separation of any oily drops either on the surface or at the bottom of the liquid (absence of other essential oils or of petroleum). If the liquid thus obtained be subsequently diluted with about three times its volume of water, and a slight excess of hydrochloric acid added, a white crystalline precipitate will be produced, which, when collected on a filter, washed with a small amount of water and recrystallized from hot water, should respond to the test for identity and purity of salicylic acid (absence of methyl, benzoate, etc.) By the use of the above test, with various admixtures, I have convinced myself that the presence of five per cent. of the oils of sassafras or camphor can be detected in the oils of gaultheria or birch with the greatest ease, not only by the separation of distinct only drops either at the bottom or on the surface of the liquid, but also by their pronounced odor, since the characteristic odor of wintergreen becomes quite completely lost. There is no doubt but that very much smaller quantities (probably as little as one per cent. of either of these oils) could thus be detected. In applying the test to a specimen of oil of birch which I had previously found to contain about five per cent. of petroleum, this adulterant was also easily detected by the oily layer on the surface and by its odor after heating with the alkaline liquid as above described.

Wholesale Prices Current

Our Quotations are those of Importers and Manufacturers, for original packages and large lots. For broken lots higher prices are asked.

Oils, Etc.

Vegetable Oils.

Linseed, City Raw, in bbls	₱ gal.	—@38
Boiled, in bbls		—@41
Out of town on spot		36@37
Calcutta, Raw, in bbls		—@56
Rapeseed, in bbls		65@72½
Mustard		45@52½
Cottonseed, Crude Prime		24½@25
Crude off quality		23@24
Yellow Summer Prime		28½@—
Yellow Summer, butter		33@34
Yellow Summer off qal		—@28
Reddish		27½@28
White Summer		30@31
Yellow Winter		—@—
White Winter		—@—
Soap stock	₱ lb.	1¾@1¾
Olive	₱ gal.	.59@64
Soap Stock	₱ lb.	4¾@5½
Palm, Prime		5½@6
Red oil		5½@5¾
Cocoanut, Domestic		—@—
Ceylon		5¼@5¾
Cochin		6¼@6½
Cuban		—@—
Castor, No. 2		12@12¼
No. 3		11¼@11¼
Poppy		85@98
Rosin, First run	₱ gal.	.10@—
Second run		12@—
Third run		14@—
Fourth run		—@17

Animal and Fish Oils.

Whale, Natural winter	₱ gal.	—@56
Natural spring		—@55
Bleached spring		57@58
Bleached winter		58@59
Extra bleached winter		—@60
Sperm, Natural winter		73@76
Bleached winter		78@81
Natural spring		67@70
Bleached spring		72@75
Sea elephant, Bleached winter		—@62
Unbleached winter		—@—
Seal, new process, bleached winter		—@61
Lard, prime city		57@58
Western prime		55@57
Extra No. 1		45@46
No. 1		41@42
No. 2		36@37
Menhaden, Prime crude		31@33
Good merchantable		—@—
Brown strained		—@36
Light strained		—@37
Extra bleached winter		—@40
Winter white		—@42
Bleached winter		—@38
Bleached spring		—@—
Bank		35@—
Straits		36@37
Herring		—@—
Cod, Domestic, prime		38@40
Newfondland		42@43
Black Fish, Crude		—@—
Natural		—@65
Bleached winter		68@70
Degras, English		2½@4
Germam		2½@4
French		7@8
Tallow, Prime		43@45
Neatsfoot, Prime		50@55
No. 1, prime		42½@45
No. 1		37@40
Elaine red		34@38
Saponified red	₱ lb.	4½@4¾

Mineral Oils.

Paraffine, High viscosity	₱ gal.	.19@25
23½@24 gravity		13¼@14
25 gravity		12½@13
28 gravity		8@8½
30 gravity		7½@8
Red paraffine		13@13¼
22½@23 gravity		13@14
Neutral filtered, lemon, 33@34 grav		.12@18
White, 33@34 gravity		.20@30
32@34 gravity, bloomless		.12@18
32 gravity, wool grade		9@11
West Virginia, natural, 29 gravity		.18@20
Franklin, natural, 32 gravity		11@15
Smith's Ferry, 33@34 gravity		7@7½
Black reduced, 29 gravity, 25@30 c. t.		7@7½
29 gravity, 15 cold t't		8@8½
29 gravity, zero		10@11
Summer		6@6½
Cylinder, Light filtered		.16@18
Dark filtered		.12@15
Extra cold test		.18@20
Dark steam refined		9@12

Oil Cake.

Calcutta cake, city	₱ ton.	28 00@30 00
City domestic		25 50@26 00
Western, in bags		24 50@25 00
Cottonseed cake at Memphis		—@—
at New Orleans		24 00@—

Oil Meal.

State domestic meal	₱ ton.	25 00@26 00
Cottonseed meal at Memphis		—@—
at New Orleans		—@23 50

Wax, Candles, Lard, Tallow, Etc.

Paraffine wax, crude, 125 m. p.	₱ lb.	6@6¼
115 m. p		6¾@7
120 "		7@7½
125 "		7¼@8
130 "		8@8½
135 "		9@8½
140 "		.11@12½
Candles, Paraffine, 4s, 6s and 12s		9@9½
Adamantine, 6s, 16 oz		9@10
14 oz		8@9
12 oz		7@8
12s, 16 oz		.10@11
14 oz		9@10
12 oz		8@9
Patent sperm, 4s and 6s		—@42
Sperm, 4s and 6s		—@40
Stearic acid, solid		9@—
cake		9¼@—
Spermaceti, block		—@32
cakes		.33@34
Lard		6 @6 52½
Oleo stearine		6¾@6¾
Tallow		4½@4¾

Paints, Varnishes, Etc.

White Lead, Zinc, Etc.

White lead, American, dry	₱ lb	6¼@7¾
in oil		6¾@7¾
English, in oil		8¾@8¾
Litharge, American powdered		6¾@7¾
English flake		9@9¾
Glassmakers'		5¾@—
Red lead, English		8½@9
American		6¾@7¾
Orange mineral, American		8¾@8¾
English		8¾@9
French		10@10¾
German		8¾@9
China white		.10¾@12
Flake white		.10¾@12
Cremnitz white		.15@20
Zinc white, Paris, G. S., 50 bbls. 8¾ less	4 ₱ ct	
G. S., 25 bbls. 8¾	2 ₱ ct	
G. S., 10 bbls. 8¾	1 ₱ ct	
R. S., 50 bbls. 8½	4 ₱ ct	
R. S., 25 bbls. 8¾	2 ₱ ct	
R. S., 10 bbls. 8¾	1 ₱ ct	
Antwerp, RS, 50 bbls. 7½	4 ₱ ct	
R. S., 25 bbls. 7¾	2 ₱ ct	
R. S., 10 bbls. 7¾	1 ₱ ct	
G. S., 50 bbls. 8¾	4 ₱ ct	
G. S., 25 bbls. 8¾	2 ₱ ct	
G. S., 10 bbls. 8¾	1 ₱ ct	
G. S. in poppy oil	.10¾@11	
R. S. in poppy oil	.10@10	
French in varnish	.16@20¾	
American extra, dry	4¼@5	
Off color	4@4¾	
In oil	6¼@6¾	
In varnish	.14@18¾	
L. Z. O. German	6¾@7¾	

Dry Colors.

BLUES.

Celestial	5¾@8
Chinese	40@50
Prussian	.25@40
Refiners'	.60@70
Soluble	.45@55
Ultramarine	7@25
Verditer	.25@30

BROWNS.

Sienna, Italian, burnt & powdered		4@5
burnt lumps	₱ lb.	1¾@3½
raw, powdered		4½@5½
raw, lumps		1¾@3½
American, burnt & powder'd		1¼@1¾
raw		1¼@1¾
Spanish brown		½@1
Umber, Turkey, burnt & powdered		3½@4
burnt lumps		2¾@3
raw and powdered		3¼@4
raw, lumps		2¼@2¾
American, burnt		1¼@1¾
raw		1¼@1¾
Vandyke brown, German		6@8
American		3@4

GREENS.

Chrome, chemically pure		.22@26
extra		.12@13
super		9@11¾
common		6@8
Paris, pure		.14@22
in pulp		.14@22
Verdigris, French		.40@42

REDS.

Carmine, No. 40	₱ lb.	3 10@3 20
Crocus martus, imported		2¾@4
Standard Am'can		1@2¾
Indian red, Standard American		2@3
English		4½@15
Rose pink, American		8@—
English		7¾@9
Tuscan red, English		7@10
Turkey red, English		9¾@14
Venetian red, English, prime		1 20@1 40
second quality		1 00@1 10
American		.70@1 00
Vermilion, imported English		85@90
Am. quicksilver, bulk		60@—
Am. quicksilver, bags		61@65
Chinese		90@1 00
Trieste		90@95
American		11¾@12
Artificial		8@35

YELLOWS.

Chrome		.10@25
Ocher, Rochelle		1 35@1 50
Washed Dutch		5@—
Washed French		1¾@2¾
Washed Nat Oxford, lump		6¼@6¾
Washed Nat Oxford, powd'r		7@7¾
Golden		3¾@4
Domestic	₱ ton	$12@20
Domestic, for O C & W P		.12@20

Miscellaneous.

Barytes, prime white	₱ ton.	18 00@20 00
foreign floated		.23 00@24 00
domestic floated		.31 00@32 00
off color		.11 00@17 00
crude, No. 1		8 50@—
No 2		7 75@—
No. 3		7 50@—
Blanc fixe	₱ lb.	2¾@3
Bronze powder		—@—
Brocades		45@1 00
Chalk	₱ ton.	1 55@2 10
kiln dried	₱ 100 lbs.	40@—
air dried		33@35
Clay, China, imported	₱ ton.	13 00@20 00
domestic		9 00@12 00
Cobalt oxide	₱ lb.	2 50@2 90
Feldspar	₱ ton.	14 00@20 00
Marble dust	₱ bbl	1 25@1 50
Plaster		1 30@1 50
dentists'		1 75@2 00
Pumice stone, orig'al cks	₱ lb.	1¼@2
selected lumps in bbls		4@15
powdered pure, in bbls		1¾@2¼
Putty, in bulk		1¾@2
bladders		2@2¾
tins		2¾@2¾
Rotten stone, original cks		4¼@—
Rotten stone, selected lumps		6@15
powd'ed, in bbls		3¼@3¾
Rubbing stone		3½@4
Silex	₱ ton.	14 00@20 00
Smalt, German blue	₱ lb.	15@16
super black		—@—
Talc, American No. 1	₱ 100 lbs.	1 00@1 25
French		1 37½@1 50
Terra alba, American, No. 2		45@50
English		80@85
French		75@8
Whiting, commercial		35@50
gilders'		55@60
extra gilders'		60@65
American, Paris		70@75
English cliffstone		1 00@1 15

Glues.

Extra white	₱ lb.	.18@25
Medium white		.14@15
Cabinet		.13@18
Low grade		9@11
Foot stock, white		9¾@13½
brown		7@9
Irish		11¾@14¾
French		9¾@25
English		7@15

Metallic Paints.

Brown	₱ ton.	21 00@25 00
Red		21 00@25 00

Colors in Oil.

Black, coach, Japan	₱ lb.	18¾@20
in oil		.12@13
drop, American		7¾@10
English		12¾@14
ivory		8¾@14¾
lampblack, prime		27½@33
medium		19¾@26
2d quality		.13@19
low grade		6¾@10
Blue, Chinese		.35@40
Prussian		.20@45
ultramarine		.12@18
Brown, sienna, burnt		7@12
raw		7@12
umber, burnt		7@11
raw		7@11
Vandyke		7@12¾
Green, chrome		8@14
Paris		.16@18¾

Varnish Cums.

Asphaltum, Cuban, prime		5@8
Egyptian		4½@5¼
Copal, Sierra Leone, cleaned	₱ bl.	.50@60
Zanzibar, bold white		.70@75
medium white		.60@65
bean and pea		.40@45
Manila, pale		.17@25
bright amber		.13@17
standard		9¼@10½
Damar, Batavia		.15@17
Kauri, Standard		21½@22½
No. 2		13¾@14¾
hard scraped		.22@24
light hard scraped		.28@30
picture quality		.65@70
pale and fine selected		.42@65
Sandarac		.27@30

Glass.

WINDOW GLASS.

AMERICAN AND FRENCH SINGLE.
Prices per Fifty feet.

Sizes.		1st.	2d.	3d.	4th.
6x 8	to 10x15	$12 50	$10 75	$10 00	$ 9 50
11x14	to 16x24	14 50	12 75	12 00	11 00
18x22	to 20x30	19 00	16 50	15 00	14 25
15x36	to 24x30	20 50	17 50	15 50	.....
26x28	to 24x36	22 00	19 50	17 00	.....
26x36	to 26x44	23 50	20 50	17 50	.....
26x46	to 30x50	26 00	23 00	19 50	.....
30x52	to 30x54	27 00	24 00	20 50	.....
30x56	to 34x56	29 00	25 50	22 00	.....
34x58	to 34x60	30 00	27 00	25 00	.....
36x60	to 40x60	34 00	31 00	27 00	.....

AMERICAN AND FRENCH DOUBLE.
Prices per Fifty feet.

Sizes.		1st.	2d.	3d.	4th.
6x	to 10x15	$17 00	$15 00	$14 00	$13 50
11x14	to 16x24	21 00	18 50	17 00	.....
18x22	to 20x30	26 50	23 50	21 00	.....
15x36	to 24x30	29 00	25 50	22 00	.....
26x28	to 24x36	31 50	27 50	24 00	.....
26x36	to 26x44	33 00	29 50	25 00	.....
26x46	to 30x50	36 00	32 00	27 00	.....
30x52	to 30x54	38 00	33 50	28 50	.....
30x56	to 34x56	40 00	35 00	31 00	.....
34x58	to 34x60	43 00	39 00	34 00	.....
36x60	to 40x60	47 00	43 00	35 00	.....

Discount on French S. & D. 75 10& 5@80 &5%
Discounts on American, 80 & 5 @80, 10 & 5%

Naval Stores.

Spirits turpentine	₱ gal.	36¼@37
Rosin, Strained	₱ bbl.	37½@1 40
Good strained		1 45@1 50
E		1 55@1 60
F		1 65@1 75
G		1 90@2 00
H		2 00@2 15
I		2 25@2 30
K		2 60@2 75
M		3 40@—
N		3 65@3 50
Window glass		4 00@4 25
W. W		4 50@—

Drugs.

Opium.

Opium, natural (cases)	₱ lb.	1 65@1 75
as wanted		1 75@1 80
powdered		2 55@2 65
Morphine American	₱ oz.	1 55@1 80
foreign		1 50@1 90

Quinine.

Quinine, American	₱ oz.	24@31
Italian		19@20
German		19@20
Cinchonidia American		3½@4½
foreign		2¼@3
Quinidine		30@30

Miscellaneous.

Acetanilid	₱ lb	50@54
Acid benzoic, German		38@45
English	₱ oz.	8@9¼
boracic purified	₱ lb.	20@—
powdered		
Acid boracic, flaky	₱ lb.	13¾@—
carbolic, pure crystals, bot		17@20
drums		10½@12
citric, domestic		45½@46
foreign		45½@46
salicylic, bulk & boxes		1 12@1 17
Alcohol, 94 per ct, free	gal.	2 20@2 24
refi'd wood, 95 p ct		—@1 30
97 p ct		—@1 35
purified		1 40@1 60
Cologne spirits, 188 per cent		2 32@2 36
Ambergris gray	₱ lb.	42 50@48 00
black		14 00@20 00
Ammonia carb, foreign		7¾@8
Antimony		7@10
Arrowroot, Bermuda		26@28
St. Vincent, bbls&cns		9@10
Jamaica		20@21
Bay rum imp, bulk	₱ gal.	2 30@2 35
Borax, refined city, bbls	₱ lb.	8¾@8¾
Cal., bbls		8¾@8¾
concentrated		7¾@8¼
powdered		8¼@8¾
Bromine		19@40
Burgundy pitch		2¾@3¾
Cacao butter		28@36
Calomel, domestic		75@—
English		1 00@1 05
Cantharides, Russian		85@95
Chinese		26@27
Chalk, Precipitated Eng, bk		4¾@5
bbls		5@7
Chloroform	₱ lb.	50@55
Chloral hydrate, crystals		1 00@1 15
plates		90@1 10
Cocaine muriate	₱ oz.	6 25@7 00
Colocynth apples, Trieste		30@40
pressed		32@—
Spanish		20@22
Corrosive sublimate	₱ lb	66@69
Cuttlefish bone, Trieste		14@—
Dragon's blood mass		20@25
reeds		33@35
Epsom salts per 100 lbs		1 00@1 25
Ergot, Spanish	₱ lb.	70@75
German		50@72½
Gelatine, English		50@60
French		30@45
American		30@60
Glucose		2¾@3
Grape sugar		2¾@3
Glycerine, German, refined		18@22
Amer'n, refined, cs		14@17½
Guarana, whole		1 50@1 60
powdered		1 75@2 00
Iceland moss		4¾@5½
Iodine, re-sublimed		3 30@3 35
Irish moss, American		4¾@5
imported, cleaned		7¾@12
Isinglass, Russian		3 75@4 00
American ordinary		55@60
prime		80@1 25
Licorice paste, domestic		8@15
stick, domestic		17@24
foreign		28@29
Lupulin, American		50@60
German		—@30
Lycopodium, prime		44@48
Manna, large flake		60@70
small flake		25@28
sorts		23@24
Menthol		2 60@3 00
Musk, true grain	₱ oz	11 00@32 00
pods		5 50@23 00
Canton grains		20@1 00
Naphthaline, ball and cake		3¾@6¾
Nitrate barium	₱ lb.	7@7½
strontia		8¾@8¾
silver		58@59½
Nux vomica, pockets		3@3¾
Oil, Almond, sweet	₱ gal.	22@50
Castor, city, bbls & cas	₱ lb.	13@13½
Cod liver, Norwegian	₱ bbl	22 00@32 00
Newf'land	₱ gal.	63@70
Myrbane, American	₱ lb.	15¾@16¾
English		16@18
Olive, virgin	₱ gal.	1 40@2 00
Sesame, bbls		67½@72
Phosphorus	₱ lb	57@60
Precip, red		88@91
white		93@97
Potassium, bromide bulk		21¾@25
glass		32@34
iodide, bulk		2 58@2 68
glass		2 65@2 71
Quicksilver		59@60
Rochelle salts		23@24
Sago, pearl		3¾@4¼
flour		3¾@4
Salicine		1 60@—
Soap, Castile white		9¾@11
green, pure		6¾@8
mottled ordinary		4¾@4¾
pure		6¾@8¼
Sugar of milk, cob		25@27
powdered		22@27
Sulphur, roll		2¾@—
flour		2¾@—
Strychnine	₱ oz.	1 05@1 15
Venice turpentine	₱ lb	18@22
Wax, Bees, Southern		28@30
State		28@35
white, pure		40@45
Japan		9@—
Carnauba		11@1
Ceresin		12¾@15¾

Balsams.

Copaiba, Angostura	₱ lb	37@48
Para		38@45
Central American		38@40
Fir, Canada	₱ gal	1 90@2 00
Oregon		1 00@1 20
Peru	₱ lb	1 15@1 20
Tolu		26@30

Barks.

Angostura	₱ lb	2@7
Bayberry		5@6
Buckthorn		7@—
Cascara sagrada		5¾@—
Cascarilla		5¾@6¾
Canella		8@8
Cinchona, red		25@26
yellow		15@28
Loxa		24@2
Coto		4@—

Elm, common	℔ lb.	7 @	8
selected		12½@	13
Oak, white		3½@	4
red		3½@	4
Orange peel, West Indian		5½@	6
Malaga, prime		6½@	12
Curacoa		4½@	10
Prickly ash		9 @	10
Pomegranate (of root)		14 @	30
Quebracho		10 @	—
Sassafras		10 @	12
Simaruba		16 @	18
Soap, whole		9 @	
crushed		9½@	10

Beans.

Calabar	℔ lb.	14 @	16
St. Ignatius		18 @	20
Tonka, Angostura		1 85 @	2 00
Surinams		65 @	70
Para		50 @	55
Vanilla, Mexican		4 00 @	8 00
Bourbon		3 00 @	6 00

Berries.

Cubeb	℔ lb	47½@	85
Juniper		2½@	2¾
Fish (Cocculus Ind)		5 @	8
Laurel		5½@	6
Prickly ash		1 00 @	—

Essential Oils.

Anise	℔ lb	1 55 @	1 65
Almond (bitter)		4 50 @	7 25
Bay, ℔ bottle of 22 ozs		5 00 @	6 00
Bergamot		3 00 @	3 35
Cajeput		45 @	50
Camphor		6¾@	7
Caraway seed		1 00 @	1 40
chaff		40 @	52
Cassia		92½@	1 00
Citronella		26 @	28
Clove, stem		60 @	65
bud		60 @	65
Copaiba		80 @	90
Croton		85 @	1 00
Cubebs		5 25 @	6 00
Fennel		80 @	85
seed		1 40 @	1 50
Geranium, Turkish		3 00 @	3 50
rose, French		7 50 @	8 50
Gingergrass		2 00 @	2 25
Juniper, once rectified		1 00 @	—
twice rectified		1 50 @	2 00
wood		25 @	40
Lavender, garden		40 @	65
flowers		1 30 @	1 75
Lemon		2 @	2 85
Lemongrass		51 @	65
Neroli, Petale		45 00 @	55 00
bigarade		35 00 @	45 00
Portugal		25 00 @	27 50
Nutmeg		2 10 @	2 15
Orange, sweet		2 45 @	2 75
bitter		3 25 @	3 85
Origanum		18 @	40
Peppermint, tin cans		2 40 @	2 80
cases		2 95 @	3 15
Pennyroyal		1 15 @	1 60
Rose, ordinary	℔ oz	5 00 @	5 35
special brands		5 30 @	6 00
Rosemary, Trieste	℔ lb	55 @	—
French		30 @	70
flowers		80 @	1 10
Sandalwood		2 10 @	6 00
Sassafras		38 @	41
artificial		31 @	32
Spearmint		1 85 @	2 35
Tanzy		1 75 @	2 25
Thyme, red		80 @	1 00
white		90 @	1 25
Wintergreen		1 75 @	1 90
artificial		1 35 @	1 40
Wormseed		1 40 @	1 50
Wormwood		2 40 @	3 25

Flowers.

Arnica	℔ lb	12 @	16
Chamomile, German, new		13 @	16
Roman		16 @	28
Insect		10½@	18
Lavender		3 @	7
Rosemary		15 @	20
Saffron, American		22 @	23
Alicante		5 00 @	5 75
Valencia		6 50 @	7 50

Gums.

Aloes, Cape	℔ lb	6 @	8
Barbadoes		9 @	14
Curacoa		3 @	15
Socotrine		36 @	45
Arabic, 1st picked		70 @	72½
2d picked		45 @	47½
3d picked		33 @	35
4th picked		23 @	24
Sorts		21 @	23
Siftings		8 @	12
Asafœtida		20 @	45
Benzoin		20 @	35
Camphor, refined, bbls		43 @	—
in cases		44 @	—
Chicle		24 @	25
Euphorbium		24 @	25
Gamboge, pipe and block		55 @	62½
Gedda, siftings		18 @	20
sorts		— @	—
Gualac		15 @	30
Kino		16 @	18
Mastic		65 @	70
Myrrh		15 @	40
Olibanum, tears		12 @	14
sorts		5½@	8
Sandarac		28 @	30
Scammony, Alleppo		3 00 @	3 50
Virgin		6 50 @	8 00
Senegal, picked		18 @	28
sorts		13 @	14
Tragacanth, Alleppo, 1st flake		48 @	50
2d flake		36 @	43
3d flake		33 @	35
4th flake		25 @	28
Turkey, 1st flake		70 @	75
2d flake		45 @	50
3d flake		35 @	40

Herbs and Leaves.

Aconite	℔ lb	10 @	11
Althæa		6 @	8
Belladonna		8½@	15
Buchu, short		19 @	16
long		— @	60
Coca		50 @	65
Damiana		10 @	12
Digitalis		8 @	12
Eucalyptus		2 @	5½
Grindelia robusta		7 @	8
Henbane (hyosciamus)		9 @	12½
Horehound		5½@	6
Indian hemp (Canabis Indica)		13 @	18
Jaborandi	℔ lb.	19 @	20
Laurel		3½@	4
Lobelia		4 @	7
Matico		15 @	20
Marjoram, German		12 @	18
French		9 @	15
Prince's pine		— @	8
Rose, red		75 @	1 10
pale		25 @	30
Rosemary		3 @	4
Sage, Italian		5 @	8
Senna, Alex. nat		17 @	22
siftings		10 @	12
garbled and sifted		20 @	42
Tinnevelly		4½@	15
Thyme		4½@	10
Uva Ursi		4½@	6
Yerba Santa		10 @	12

Roots.

Aconite	℔ lb	12 @	15
Alkanet		7½@	8¼
Althea, whole		16 @	18
cut		16 @	19
Angelica, German		15 @	20
American		15 @	20
Arnica		14 @	16
Belladonna		6 @	10
Blood		4½@	6
Burdock		7½@	8
Calamus bleached		28 @	33
unble'd, split & peeled		7 @	8
Canada snake, select		24 @	25
Colchicum		14 @	16
Colombo		6 @	9
Culvers		11 @	12
Dandelion, German		8½@	10
American cut		12 @	14
Elecampane		4½@	5
Galangal		6½@	7
Gentian		3½@	4
Ginseng		2 20 @	3 30
Ginger, Jamaica, unbleached		9 @	15
American, bleached		13 @	15
Golden seal		28 @	30
Hellebore, white, powdered		8 @	12
whole		5 @	6
Ipecac, Rio		2 10 @	—
Jalap		25 @	32
Kava Kava		14 @	16
Lady slipper		15 @	20
Licorice, ordinary		4½@	6
selected, in bdls		8½@	20
Lovage, American		40 @	50
German		14 @	18
Mandrake		3¾@	4¼
Orris, Florentine		35 @	40
finger		42 @	75
Verona		16 @	17
Pareira brava		10 @	12
Pellitory		16 @	18
Pink		24 @	25½
Rhatany		8 @	10
Rhubarb, whole		30 @	70
cut		25 @	80
Sarsaparilla, Honduras		30 @	40
Mexican		8½@	9
American		— @	—
Senega, Southern		— @	40
Western		36 @	37
Serpentaria		22 @	27
Stillingia		4½@	5
Squills, ordinary		— @	4½
white, prime		5½@	6
Valerian, German		10 @	11
Belgian		7½@	8½
English		20 @	30
Vermont		15 @	17
Yellow dock		6 @	12

Seeds.

Anise, Italian	℔ lb	8½@	9½
German		7¾@	8¾
star		23 @	26
Canary, Sicily		2¾@	2¾
Smyrna		2½@	2¾
Spanish		—@	3
Caraway, Dutch		4½@	5
German		4¾@	4¾
Cardamom, Alleppo		60 @	80
Malabar		60 @	80
Mangalore		80 @	1 60
Celery		16 @	—
Colchicum		22 @	27
Coriander, English		3½@	4
French		3¾@	3
German		2½@	3
Cummin		8½@	10
Fennel, German		9¾@	12
Fœnugreek		2¾@	2½
Guinea grains		9 @	—
Hemp, Russian		2¾@	2¾
Smyrna		— @	—
Lobelia		18 @	20
Millet, domestic	℔ bush	1 10 @	—
foreign	℔ lb	2 @	2¾
Mustard, California yellow		4¾@	5
brown		4 @	4½
Dutch		4 @	—
English		4¾@	5
Trieste brown		4¾@	5
Poppy, blue		6½@	8
Quince, German		25 @	30
Russian		22 @	25
Rape, English		4 @	4½
German		2¾@	2¾

Shellac.

D. C	℔ lb	— @	24
Octagon B. and similar grades		23½@	24
V. S. O		22½@	23
Diamond I		22½@	23
S. D. & similar grades		— @	22
T. N. Superior		20 @	21
Ordinary		19 @	19¾
Garnet, A. C		19¾@	20
Button		22 @	23
Stic lac		21 @	22
Bleached		24 @	30

Spices.

Cassia, Batavia	℔ lb.	7 @	10
China		4¾@	4½
Saigon, rolls		29 @	30
broken		— @	25
chips		24 @	25
buds		17 @	16½
Cloves, prime Zanzibar		6¾@	7
Amboyna		15 @	17
stems		3 @	3¾
Ginger, African		6¾@	7
Calcutta		6¾@	7
Cochin		9¾@	12
Mace, Batavia		55 @	60
Banda		58 @	63
Penang		60 @	63
Nutmegs, 110's		56 @	57
Pepper, Singapore		6½@	7
West Coast		6¾@	7
Acheen, prime		6¾@	6¾
Penang, White		10 @	11
Singapore, white		12½@	13
red, Zanzibar		16½@	17
Bombay		8 @	9
Pimento prime		6¾@	—

Chemicals.

Heavy Chemicals.

Alkali, 48 ℔ cent., Solvay		1 55 @	1 60
refined, high test		1 47½@	1 50
Bleach, over 35 ℔ cent		2 15 @	2 20
Salt cake		70 @	80
Soda ash, carb, 48 ℔ cent		1 55 @	1 60
high test		1 55 @	1 60
Caustic 48 ℔ cent		1 55 @	1 60
Newcastle, 48 ℔ cent		1 50 @	1 55
high test		—— @	——
Soda bicarb, English		—— @	3 50
American		2 10 @	3 50
crystal carbonate		1 85 @	2 00
caustic, 60 ℔ cer cent		3 10 @	3 25
70 ℔ cent		3 20 @	3 28
74 ℔ cent		3 20 @	3 25
77 ℔ cent		3 15 @	3 25
Sal, English		1 05 @	1 10
American		90 @	95

Acids.

Acid, acetic		1 65 @	1 75
chemically pure		16 @	17
pure		—— @	——
oxalic		6½@	6¾
sulphuric, 60 deg		75 @	1 00
66 deg		85 @	1 00
muriatic, 16 deg		1 @	1¾
18 deg		1½@	1¾
20 deg		1¾@	1¾
22 deg		1½@	2
nitric, 36 deg		3½@	4¼
38 deg		3½@	4
40 deg		4 @	4¼
42 deg		4¼@	4¾
tartaric, crystals		29 @	30
powdered		30 @	31

Ammonias, Potashes and Fertilizing Chemicals.

Ashes, pot, 1st sorts	℔ lb.	5 @	5¼
pearl		6 @	6¾
Potash, chlorate, English		14 @	14½
powdered		14½@	15
carb		4¾@	5¾
caustic		6½@	7
cyanide, fused		39 @	40
bi m'ure salt 48@53 ℔ cent		1 13 @	1 40
sulph of, basis 90@98 ℔ ct		2 13 @	2 40
Kainit, 23 ℔ cent. S of P	℔ ton	8 75 @	9 25
Sylvinit, 37@35 ℔ ct. S. F. P	℔ unit	40 @	42½
Aqua am'ia (in cbys) 16 ℔ ct	℔ lb	4 @	5
18 deg		2 @	4
20 deg		4 @	5
26 deg		4¾@	5
Ammonia, sal, rough		— @	—
white		8¾@	8¾
lump		7 @	7¾
sulphate		3 00 @	3 05
Potash muriate, ℔ 100 lb		1 81½@	2 00
Ammoniates, Etc.:			
Azotine, ℔ unit		1 80 @	1 85
Blood, dried, red, ℔ unit, high		1 90 @	1 95
low grade, ℔ unit		1 80 @	1 90
Concentrated tankage, ℔ unit		1 65 @	1 70
Bones, rough, ℔ ton		19 00 @	20 00
ground, ℔ ton		22 00 @	22 50
Bone Meal		22 50 @	23 00
Bone black, refuse		18 00 @	19 10
Fish guano, dried		23 50 @	24 00
acidulated		13 00 @	13 50
Phosphate rock, f. o. b. Char'n		4 50 @	5 00
undried		4 25 @	4 75
dried		4 50 @	5 00
ground		8 50 @	9 00
Acid phosphate, 14 ℔ cent		72½@	75

Miscellaneous.

Acetate of lime, gray	lb.	1¾@	1¾
brown		95 @	1 00
Alum, lump		1 60 @	1 65
ground		1 65 @	1 70
porous		2 70 @	2 80
Arsenic, white		2 75 @	2 80
red		5 @	6¼
Brimstone crude, 2 ds	℔ ton.	20 75@	25 00
3ds		20 00@	24 00
Cream tartar, crystals, p c	lb.	20 @	21
powdered, 99 p c		20 @	21
Chloride of calcium		85 @	1 25
Glauber salts		75 @	80
Nitrate of lead		9 @	10
soda		1 90 @	1 95
Chlorate of soda		17 @	17¼
Sugar lead, brown		6 @	6¾
white		12 @	12¾
Saltpeter, crude		3¾@	4¾
refined		6 @	8
Vitriol, blue or dinary		3 @	3½
extra		3 @	3¾

Dyestuffs

Acid, picric, best crystals	℔ lb.	28 @	35
Albumen prime egg		30 @	35
imported blood		15 @	19
domestic blood		15 @	19
No. 1½ blood		12 @	15
Alizarine		17½@	21
Annatto		10 @	25
seed		4 @	7
Archil weed		7 @	15
Aurine		58 @	—
Barbary root, cut		4 @	—
Bichromate of potash, Scotch		9½@	10
American		9½@	10
Bichromate of soda		8 @	—
Carmine of indigo		40 @	45
Cochineal, Teneriffe silver		24 @	27
black		25 @	28
gray black		25 @	29
ammoniac		— @	37
Copperas		80 @	—
Cudbear, French		12 @	—
concentrated		25 @	—
English		12 @	30
Cutch, slabs		— @	7¼
bag		5½@	6¾
Dextrine Imp		6¾@	7
Dom		5¾@	6¼
Divi divi	℔ ton.	70 00 @	75 00
Fullers earth, lump	℔ ton.	20 00 @	25 00
powdered		27 50 @	30 00
Flavine	lb.	27 @	28
Fustic stick	℔ ton.	18 00 @	26 00
Gambier	℔ lb.	4¾@	4¾
Garancine		8¾@	8¾
Indigo, Bengal, low grade		70 @	80
medium		85 @	1 00
high grade		1 10 @	1 30
Caracas		— @	—
Kurpahs		90 @	1 00
Gautemalas		60 @	85
Manila		47½@	55
Madras		35 @	55
Indigotine		2 50 @	3 00
Lac dye		5 @	10
Logwood stick	℔ ton.	30 00 @	32 00
Madder, Dutch	℔ lb.	8½@	16
French		5 @	7
Myrabolans		1¾@	2¼
Muriate of tin		8 @	13
Nitrate of iron, commercial		1½@	2
true		4 @	5
Nutgalls, blue Alleppo		17½@	18¼
Chinese		14½@	15
Oxymuriate of antimony		4 @	6
Persian berries		10 @	12
Prussiate of potash, Am. yel		23 @	23¼
red		42 @	45
Scotch yel		24 @	—
red		42 @	—
Ger. yel		23½@	24
red		42 @	—
Prussiate of soda		22 @	24
Phosphate of soda		6 @	8
Quercitron	℔ ton	31 50 @	35 00
Sago flour		4 @	6
Salts of tartar		6½@	7
Soluble oil		⅝@	⅝
Sumac, Sicily prime	℔ ton.	62 50 @	67 50
Virginia		42 00 @	47 50
Starch, corn	℔ lb.	2½@	3¾
potato		3¾@	4
wheat		5½@	6¾
Stannate of soda, 50, soluble		9¾@	15
40, soluble		7½@	13
25, soluble		6½@	9
20, soluble		5½@	8
Tin crystals		14 @	15
Turmeric root, Coringa		7 @	7¾
Bengal		4¾@	5
Vanadiate, ammonium		90 @	1 00
Woad, English		9 @	10
Coal Tar Colors:			
Alizarine		16 @	19
Aniline oil		18½@	20
salt, crystals		15¾@	18
Bismarck brown		55 @	75
Eosine		1 00 @	1 50
Fast red		50 @	55
Fast yellow—acid		65 @	1 50
Fuchsine crystals		1 00 @	1 50
Methylene blues		1 25 @	2 50
Nicholson (alkali) blue, 3B		2 10 @	3 00
5B		3 75 @	4 00
red shade		2 00 @	2 25
Nigrosine		1 00 @	1 25
Orange		30 @	40
Safranine		1 00 @	1 50
Scarlet R		28 @	40
RR		30 @	50
RRR		35 @	55
Soluble blue—green shade		2 50 @	3 00
Violet—2R		1 50 @	2 00
2B		1 00 @	1 25
3B		1 00 @	1 25
Chipped Dyewoods, Etc.:			
Barwood	℔ lb	1¾@	3¾
Camwood		4¾@	5
Fustic, com		1¾@	1¾
Cuban		1¾@	1¾
Green ebony		3¾@	4
Hypernic		3¾@	4¾
Logwood, Campeachy		1¾@	1¾
Nicwood		2 @	3
Peachwood		3¾@	3¾
Redwood		@	3
Red sanders		— @	3
Extracts:			
Archil	℔ lb	10 @	13
concentrated		10 @	13
Barberry, French		26 @	30
Chestnut		3½@	4¾
oak		3¾@	—
Refi'd sedimentless hemlock		4¾@	6
Prime hemlock		3 @	3½
Fustic, solid		9½@	11¾
liquid, 51 deg		7½@	9
Indigo extract		7 @	15
Logwood, solid		7½@	9¾
liquid, 51 deg		4¾@	5¾
42 deg		3¾@	4¾
Sumac		3¾@	6

Comparative Prices.

On March 31, in 1889, 1890 and 1891.

Chemicals.	1891	1890	1889
Bleaching powder	1 65	2 00	1 60
Brimstone, 3ds	$35 00	$19 50	$30 00
Caustic soda, 70%	3 05	3 50	2 15
Caustic soda, 60%	3 30		2 35
Sal soda, Am	1 00	2 00	75
Soda ash, 48% carb	1 60	2 50	1 22½
Soda ash, 48% caustic	1 55	2 50	1 22½
Soda ash, 48-53% N. C	1 60	2 75	1 12½
Soda alkali, 58% B. M	1 60	2 75	1 12½
Soda nitrate	1 85	1 70	2 35
Cream tartar, crystals	24½	24½	24
Muriate of potash	1 77½	1 80	1 82½
Chlorate of potash	11¼	13	13¾
Kainit	$8 50	$10 50	$8 50
Paints			
White lead in oil	6¾	7¼	7
Litharge, Am pow'd	6¼	7¼	6¾
Paris green		12¾	8
Orange mineral	9¼	8	8
Ven. red, English	1 20	1 40	1 40
Ven. red, American	1 00	1 00	1 00
Barytes	$18 00	$18 00	$16 00
Whiting, Commercial	46	45	47½
Drugs			
Opium	2 00	3 50	2 82½
Morphine, domestic	1 95	2 70	2 40
Quinine, German	20½	28	25
Quinine, domestic	25	31	30
Cinchonidia, domestic	4	4	4
Alcohol	2 26	1 98	1 98
Borax, city	..	10	9
Beans, tonka (Ang)	1 75	1 45	1 30
Cubeb	90	1 35	1 25
Cuttlefish	23	25	21
Glycerine, American	15¼	18	21
Oil castor, city cs		14½	12½
Oil, codliver, Nor	$43 00	$19 00	$20 00
Oil, bergamot	3 00	2 65	1 90
Oil, cassia	1 00	1 10	95
Oil, citronella	30	31	33
Oil, cubebs	9 00	13 50	14 00
Oil, lemon	1 25	1 00	1 00
Oil, peppermint, tins	2 50	1 75	2 10
Oil, sassafras	39	36	42½
Quicksilver	62	60	58
Aloes, cape	6	5	6
Asafœtida	8	7½	8½
Gum arabic, 1st picked	80	92½	84¾
Gum arabic, sorts	25	45	39
Camphor, bbls	8½	55	32
Shellac, D. C	23½	29	26
Senna, Alex. Nat'l	18	19	19
Senega	36	55	55
Golden Seal root	25	27	32
Ipecac	2 15	1 95	1 90
Jalap	20	22	13
Canary seed, Smyrna	1¾	2¼	2¼
Caraway seed, Dutch	4½	4½	5½
Coriander, English	3½	3	4
Mustard seed, Cal. yel	3¾	3¾	2½
Mustards'd, Trieste, br	5	5½	5½
Rapeseed, English	4		4
Rapeseed, German	3	3¾	3¾
Oils.			
Cottonseed, prime S. Y	38	34	30
Olive, Sicily	67	95	
Cocoanut, Ceylon	6¾	5½	5 45
Lard, prime city	53	52	50
Linseed, domestic	..	52	52
Menhaden, prime cde	30	28	27
Whale, bleached win'r	56	48	47
Sperm, bleached win'r	78	80	81
Paraffine, 25 gravity	12½	11½	10¾
Black, 29 gr. 15 deg	8½	9	8¾
Oil cake, Western	$26 00	$20 50	$23 00
Spirits turpentine	2 50	42	46
Dyestuffs.			
Bichromate potash Am	10	10¾	11¾
Cochineal, Teneriff S	27	27	30
Cutch, bag	6	6¾	6¾
Gambier	5¾	6¾	6¾
Indigo, Bengal h gr'de	1 20	1 25	1 20
Prussiate potash, yel	24¾	18¾	17¼
Sumac, Sicily prime	$77 00	$62 00	$66 00
Starch, Corn	3	2¾	2¾

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CHEMICAL MARKET

Note.—*Our prices are for large lots except when otherwise specified, and buyers of smal quantities must expect to pay an advance on these figures.*

Complete prices current will be found on page 44.

SATURDAY EVENING, March 2', 1892.

The pleasant weather of the past few days has stimulated trading in the various heavy chemicals to a considerable extent. The falling off in the shipment of chemicals from Great Britain to the United States for the first two months of 1892 show a decrease in soda ash of 29% and in caustic soda of 35%, while bleaching powder and sal soda remain practically the same. These figures speak louder than any statement made by the United Alkali Company of the decreased make in Great Britain. Caustic soda on the spot, owing to non arrival of goods that were expected in by recent steamers to hand is firmer. Bleaching powder is dull, under full stocks. Brimstone is weaker for forward shipments. Nitrate of soda has sold quite freely for future delivery. The other light chemicals show few changes, as noted below. In speaking of the Liverpool market, under date of March 16th, Messrs. P. R. McQuie & Son say: "The chief topic during the week has been that of fuel, and the prospect of a short supply. A number of colliers are now out on strike, or, as they prefer to term it "taking a week's play" with a view to reducing the present large stocks of coal on the surface, and their action has already had some effect on both manufacturers and steamship owners. Whether the stoppage will be prolonged beyond seven days will probably be decided at a meeting of the Federation to be held in London to-day, but meanwhile, and up to the present moment, it would appear that the anticipation of trouble has been worse than the realization. The position in Newcastle is more serious than in this district, for there the manufacturers are threatened with a coal strike which may last for five or six weeks, and which is not a question of "play." Both here and on the Tyne notices have been issued that chemical works may be closed at any time, and we have to report an advance of 5s per ton on price of caustic soda. and ¼d per lb. on that of chlorate of soda; other alkali products remaining firm at last quotations. We note a good forward enquiry for Leblanc soda ash, and understand that some large transactions have been effected. We quote to-day: Bleaching powder, £7 15s per ton, nett cash, for softwood casks, and £7 15s@£8 for hardwood pipes. Soda ash—ammonia alkali, 58%, £6 7s 6d per ton in large casks, nett cash. Carbonated, 48%, £5 9s 9d per ton; 58%, £6 12s 9d per ton, nett cash. Caustic, 48%, £6 6s 3d per ton 58%, £6 7s 6d per ton, nett cash. Caustic soda, nominally £9 7s 6d per ton for 60%, £10 10s for 70½, and £11 10s for 74%, all nett cash. Salt cake, first quality (ground and packed in casks), 53s per ton, nett cash (medium goods offering at less money). Chlorate of soda, 8d per lb, less 5%. Chlorate of potash, 7d per lb, March-April; 6¾d April-December; subject to discount of 5%. Soda crystals, £3 10s per ton, less 5% for 3 cwt barrels. Bicarbonate of soda, £6 15s per ton, less 2½% in kegs. Sal ammoniac, £35 and £33 per ton, less 2½% for 1st and 2d quality respectively. Muriate of ammonia, rough grey granulated, £22 per ton, less 2½%. Borax, English refined, 28@30s per cwt, net cash. Recovered sulphur, £5 10s per ton, f. o. b., in bags, less 2½%. Sulphate of copper, £14 12s 6d@14 15s per ton. Sulphate of ammonia, nominally £10 5s@10 6s 3d per ton for 24%, and £10 11s 3d@10 12s 6d for 25%, f o b, double bags. Nitrate of soda easier, at 9s 3d @9s 4½d per cwt, ex store, single bags. Palm oil—Lagos, £21 15s; Bonny, £20 15s; both ex store here. Cocoanut oil—Ceylon, £22 10s; Cochin, £24 10s—London. Freights outward to U. S. A. on heavy chemicals about 4s New York, 5s Boston, 5s 6d. Baltimore, and 8s 3d Philadelphia."

Heavy Chemicals

Carbonated Soda Ash.—Trading during the week under review while not so active as the previous one has been of fair dimensions, specially for future delivery. Prices in consequence of the light stocks available for prompt delivery are tending upwards. Sales are reported of 600 tons 48% for forward delivery at prices ranging from 1 60@1 65c, as to make and date of delivery. High test is meeting with an improved demand specially for future delivery the sales reaching fair proportions at 1 57½@1 60c as to quantity and date of shipment. In speaking of the Liverpool market under date of March 16 Messrs. J. P. Brunner & Co. say: "Soda ash is inquired for, but no large business reported so far. The minimum spot quotations for the commoner qualities are as follows; Caustic ash, 48%, £5 6s 3d per ton; 57 to 58%, £6 7s 6d per ton. Carb ash, 48%, £5 9s 9d per ton: 58%, £6 12s 9d per ton. Ammonia ash, 58%, £6 7s 7d per ton all net cash.

Alkali.—Owing to light stocks available for spot delivery, buyers are turning their attention to future shipments, evidently realizing that higher prices are to prevail in the future. There have been several sales of 48% for future delivery at 1 55@1 60c as to quantity and date of delivery. High test B. M. is in the same position, either as regards spot stocks or on way. Sales of several thousand tons have been made at the advanced price of 1 47½c for future shipment, the

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market closes firm at 1 47½@1 50c as to quantity and position of goods. The other high test alkalies are also in demand at prices ranging from 1 47½@1 50c as to make, quantity and date of delivery.

Caustic Soda.—The market continues unchanged for forward shipments, and very firm for spot goods, of which there is a very small supply, and for this high prices are asked, say 3.15@3.25c for 70% and 74%. The colliers' strike in England has caused an advance in local price there of $1 50 per ton, which advance has not yet been made by the agents of foreign caustic soda here and it is now hoped, as the colliers' strike in Lancashire is settled, that no advance will occur. In the Newcastle district the strike is very serious and may continue for two or three months. This may lead to an advance in the price of 77% caustic soda. The sales making are chiefly to meet current wants of consumers. For lots on way they are asking 3c, at which we note the sale of 300 dms 70 to 74%, and 100 dms 77% also at 3 05c. There have been further sales of Solvay for delivery from July forward at about current figures.

Salt Cake.—There is no abatement in the demand for this article, specially for future delivery. Makers, however, are not inclined to go forward over next fire at current prices. Sales are reported for delivery during this fire at 70@75c as to make, quantity and place of delivery. Foreign makes are still held at figures above buyers' views, 80c being asked, while they are not disposed to pay above the price of domestic.

Sal Soda, American.—There is the usual consumptive demand reported for this article, at prices ranging from 90@95c f o b, less 1½% for cash, as to quantity and style of package. Out-of-town makers, however, are shading these figures for large lots. The demand for foreign has been limited during the past week. Values are steady at 1 02½@1 05c, as to make, quantity and position of goods.

Bleaching Powder.—The market for this article is exceedingly dull. There have been large arrivals to hand, all of which is causing holders to brush around to find buyers, especially when other outside lots are coming on the market. Sales are reported in jobbing lots at 2 10@2 20c as to make, quantity and holder.

Acids.

Acetic Acid.—There is the usual jobbing demand for this article, though for future delivery there has not been much call owing to the holding back of the Paris green makers. Values remain steady at 1 60@1 75c as to make, quantity and place of delivery.

Oxalic Acid.—Since our last there has been free arrivals which have depressed the market Sales of 30 cks. are reported from dock at 6¼c and 15 casks in lots from store at 6⅝@6¾c as to quantity and holder.

Tartaric Acid.—Trading has been light during the past week. Values remain steady at 29c for caystals and 30c for powdered as to quantity.

Muriatic and Nitric Acid.—There is a good demand both for spot and forward delivery, all of which keeps light stocks in makers' hands.

Sulphuric Acid.—The market continues steady under an improved demand, both for prompt as well as for forward delivery. The low price named for sulphur is very encouraging to the makers of this acid, though the bulk of the acid now consumed is pyrites; several round lots are reported for future delivery as well as for export. at full prices. Chamber acid is moving freely, with large sales reported at prices ranging from $8@9 per ton f o b factory, as to quantity.

Miscellaneous Chemicals.

Acetate of Lime.—Under a light demand and full stocks in makers hands prices are easier, specially for brown which is quoted at 90@95c with sales reported at the inside figures. Grey is still quoted at 1⅝@1¾c, as to quantity and place of delivery.

Arsenic.—Only a small jobbing trade is reported at 2¾c for spot and 2⅞c for goods to arrive.

Alum.—There has been during the past few days an improved demand for goods to be delivered after the first of the month. Values remain steady at 1 55@1 65c for lump and 1 65 @1 75c for ground, as to quantity, make and place of delivery.

Blue Vitriol.—Since one of the large concerns have placed their contracts for delivery over the year, prices are firmer; many of the makers anticipate higher prices, owing to the combination of the copper smelters and are only offering in limited quantities at current prices. Sales of 300 bbls are reported at 3@3⅛c, as to make, quantity and holder.

Brimstone.—The weak tone noted at the close of our last continues. Several sales are reported for April, July shipment at $20 75 for best seconds and $20 for thirds. Spot and nearby vessels are quoted at $25, at at which only small sales are reported.

Cream Tartar.—There is no change in the position of this article, only small sales to meet current wants are being made at 21@21½c for crystals and 20 c for powdered.

Copperas.—During the past week there has been an improved demand for this article. Several car loads have been sold at 65c., but at the close nothing better than 70c. was named while, for smaller lots up to 75c. is quoted.

Chlorate of Soda.—In the absence of stocks for prompt delivery prices are held steady at 17@17¼c. as to quantity and position of goods.

Nitrate of Soda.—Since our last reports the market both for spot as well as for future delivery is easier, though large sales have been made for June-August shipments at 1.70c, the sales aggregating 20,000 bgs, also 1,000 bags on the spot at 1.90@1.95c, as to quantity and holder. There is, however, a feeling among buyers that prices for future shipments will be lower, for the reason that about this time last year nitrate was selling at 1.62½c, based on 30s freight, while to-day freights are quoted at 18s.

Sugar of Lead.—There is rather more inquiry for brown, both for spot and forward at 6@6¼c as to make and holder, at which we note several small sales. White is jobbing freely at 12c less the usual discount.

Ammonias, Potashes and Fertilizing Chemicals.

Trading in the various grades of the fertilizing coemicals is picking up considerably from what it has been the past few months. Stocks for prompt delivery are nearly all exhausted, consequenely there has been an advance all along the line. Sulphate of ammonia is firmer at 2 95@3c for gas and 2 90c for bone grades. Dried blood is scarce and higher with several sales reported at 1 90@1 95c for high and 1 80@1 85c for low grades as to quantity. Fish scrap is steady at $22 50@23 per ton f o. b. factory as to quantity. Sulphate of potash and double manure salt are both steady at previous prices. In speaking of the London market under date of March 16th Messrs. Couper, Millar & Co. say: The Florida combination to regulate supplies and prices of river phosphate is not yet in operation. Meanwhile, since the issue of our last circular, there has been a further serious drop in prices of all American phosphates, and the prospects in the immediate future are not by any means bright. Mineral Phosphates.—High class Canadian will be in very limited supply next season, still we have some to offer. Florida 75% rock offered at 8½d, while river pebble, testing about 60%, has been sold as low as 7½d. It is, however, now held for more money. South Carolina River and land rock offering at 7½d per unit. Ground Somme phosphate might be secured at 11½d for 75% and 10½d for 70%, c. i. f. London or to other ports at the higher range of freights in addition. Bone ash, bones and meal continue depressed. Bone cargoes would bring about £4, and Bombay bone meal £4 5s. Sulphate of ammonia weaker, £10 6s 3d being quoted."

Muriate of Potash.—The arrivals to the various ports during the week have been large, though all are under contract for consumption. The sales making are chiefly for prompt delivery and include 100 tons at prices within the range named by the syndicate agents.

Chlorate of Potash.—The market has been rather quiet during the past few days as is usual at the close of the month. Only small sales are reported at 14@14½c, but to place a round lot it is doubtful if better than 13¾c could be obtained.

Boston Chemical Market.

[Special to the REPORTER.]

Bleach Bleaching Powder.—Is enjoying a very fair demand, and buyers show considerable interest in the market. From the fact that several of the mills have been upon the market this week in a small way, it would seem that their stocks are running low in some cases, and that a few weeks, at the longest, should bring more active buying. It is confidently reported that stocks through the country, in the hands of consumers, are not large. While at the present moment there is rather more inquiry than actual buying, this is taken as indicative of increased movements in the future; carload lots to arrive $2 22½ cts.

Nitrate of Soda.—Advices from the other side report the market for nitrate of soda easier over there. It is certain that this market is easier, and that the demand is active. A pretty conclusive proof that the market is easier is the fact that something like 10,000 or 12,000 bags to arrive have been sold, and at figures inside those given, which are the ruling market quotations: Cargoes for shipment, 1 71½c; jobbing lots, 2c.

Caustic Soda.—The market is very strongly held at the advance made by agents recently reported. There is a very good request for 74%, to arrive, at 3c, and spot at 3 10c.

Chlorate of Potash.—The market is very strong indeed at quotations, and the tendency is decidedly an advancing one, and will probably continue so until it reaches the level of the cable from Liverpool, quoting chlorate of potash at 7d. f o b. The present quotation is 14@14½c, and, as noted above, the market is very strongly held at that figure. The ultimatum must be 14¾c if this market answers in full sympathy to the English market, which it probably will.

Copperas.—This article is attracting some little attention on account of the advance of 5c brought about through an agreement among the makers, Carload lots are now quoted here at 75c with jobbing lots at 80c. The acids remain in about the same position as before reported. No noteworthy changes are made in prices, and movements are generally quiet.

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Philadelphia Chemical Market.

Business in English chemicals has been only fair during the past week. Prices are about the same as last quotations and in most instances are firm. The arrivals have been larger than usual, but very few goods remain unsold as most of the shipments have been on account of contracts.

Carbonated Soda Ash, Liverpool 48%.—Continues in moderate demand both for spot and future deliveries; from dock 1 65@1 70c is named, and to arrive 1 60@1 65c will buy, and same figures apply to shipments. In 58% there is nothing new to report.

B. M. & Co. 48%—Is experiencing more activity. The arrivals have been only enough to supply existing contracts and nothing remains unsold. Shipments are quoted at 1 60@1 65c, and for a round lot might possibly be shaded a trifle; 58% has arrived freely and can be had on spot at 1 57½@1 62½c; to arrive 1 52½@1 57½c is named, and shipments are quoted at 1 50@1 55c.

Caustic Soda Ash.—Is only wanted in a jobbing way, and is held on spot at 1 65@1 70c; shipments are quoted at 1 57½@1 62½c.

Caustic Soda, 60%.—From store is quoted at 3 25@3 50c, as to brand and quantity. To arrive 3 20@3 27½c is named. Shipments are obtainable at 3 17½@3 22½c; 70% from store can be had at 3 10@3 15c; 74% for prompt delivery is quoted at 3 07½@3 15c. To arrive and for shipments, 3 05@3 10c is asked.

Bleaching Powder—Is moving along quietly, the bulk of the business being confined to jobbing orders, for which holders are naming 2 25@2 30c, as to brand. To arrive, 2 22½@2 27½c is quoted, and shipments are held at 2 17½@2 20c.

Sal Soda.—On spot can be had at 1 10@1 15c, and for shipments 1 05@1 07½c are the ruling figures. Very little demand, however, is noted for the foreign article, owing the to low price for American makes.

Nitrate of Soda.—On spot is quoted at 2 02½@2 15c, and to arrive 1 87½@1 95c. Shipments are held at 1 72½@1 75½c.

Natural and Artificial Fuel Gas.

Natural gas has a rival as a cheap and cleanly fuel in water-oil gas produced from petroleum, which is steadily growing in popularity among our iron and steel and a few other manufacturers. It is claimed that this fuel is cheaper than coal or than gas made from it, and that it possesses all the desirable qualities of natural gas and is far safer. This new fuel possesses also the advantage that it can be produced and used where natural gas cannot be obtained, and even where the cost of coal may be too expensive to justify the use of the latter fuel.

No section of our country possesses a monopoly of all the advantages for producing iron and steel. Pittsburgh has natural gas for its rolling mills and steel works, and is close to the Connellsville coke field, but it brings its ores long distances. Chicago is nearer than Pittsburgh to Lake Superior ores, but it is hundreds of miles away from Connellsville coke and it lacks natural gas as a substitute for raw bituminous coal. In Alabama and Tennessee ores and fuel are found in close proximity, and unskilled labor is cheaper than in the North, but much of the pig iron made in these states must be hauled to distant markets at great expense. In New England but little iron and steel in their crude forms is now made, but the skill in their manipulation which has been accumulated in two hundred years yet remains. The iron industry of the Rocky Mountain region will always have the stimulus of a home market remote from destructive competition. There is room in almost every section of this great country for the iron and steel industries which we have in late years so wonderfully developed, and which are destined to expand still further as the years roll on.

Neutrality.*

Except in certain cases litmus is a very uncertain indicator of constitution. Many of the salts of the alkali-metals exhibit an alkaline reaction, those of the heavy metals frequently redden litmus, while many acids and bases do not effect litmus at all, or at least very feebly. Thus it is impossible to use litmus for the titration of boric, carbonic, hydrocynic or hydrosulphuric acid, and it is by no means a desirable indicator for the weaker organic acids, such as acetic or citric. Yet litmus is still employed by some of those who habitually assay lime and lemon juice, and to make matters worse they employ standard solution of sodium carbonate, instead of caustic alkali, for the titration. I do not say that accurate results are not obtainable in this way with care and practice, but it is surprising that such a clumsy method of analysis should still survive.

Of the natural coloring matters litmus is undoubtedly the most generally available, and in certain cases it is still the best indicator of neutrality which can be used. The end reaction is not readily observed by gas-light, but when day-light is not available the neutral point can be ascertained very sharply by employing the monochromatic light of an incandescent sodium compound (such as a bead of sodium carbonate held in a loop of platinum wire in a bunsen flame). By this light an acid solution of litmus appears nearly colorless, while the blue solution looks almost black. Cochineal may be advantageously used in some cases, as the change from yellowish-red with acids to purple with alkalies is sharply marked, and the indicator is not effected by carbonic acid. It gives an alkaline reaction with the carbonates of the alkaline-earth metals, and hence the so-called "temporary hardness" of water can be rapidly and accurately ascertained by titration with cochineal and standard acid. But as pointed out by R. M. Thomson, a radical objection to its general employment is the fact that in presence of any small quantities of iron or aluminium, the pink color, though modified, persistently remains after the neutral point has been passed.

Turmeric is an indicator which has received but little application. Its chief advantage is the possibility of using it in an alcohol solution. Its most curious reaction is that with boric acid, which turns litmus a wine-red, but behaves with turmeric just like a free alkali.

The coloring matters of logwood, barwood, oranges, red-cabbage, violets and other plant-products have been occasionally recommended, but none of them is at all equal to litmus in general applicability.

The progress of organic research has of late years enriched the laboratory with a number of indicators of neutrality, which may in many instances advantageously replace the formerly universally employed litmus. Among these indicators may be mentioned methyl orange, phenolphthalein, phenacetolin, aurin, congo-red, lackinoid, cyanin, alizarin, Poirrier's soluble blue, and many others.

The use of these indicators requires discretion, and the first thing the user is likely to discover is that they cannot be employed indiscrimately as a substitute for litmus. But this circumstance, which at first sight might appear to be an obstacle to their use, is, in reality, one of their great recommendations: for they often give perfectly sharp end-reactions when the indications oftimes are helplessly indefinite.

The great majority of indicators of neutrality, including the coloring matter of litmus, are bodies of an acid character, and they owe their value to the fact that the solutions of their alkali-metal salts have a color distinctly different from that of the free acid or hydrogen salts. When the acid properties of the coloring matter are very feeble, or in other words when its "affinity" for bases is very weak, very feeble acids will displace it from its salts, with the characteristic change of color indicating the liberation of the color-acid. Such an indicator will be available for the titration of very feeble acids, and we have it in the invaluable color acid phenolphthalein, a body which when in solution in the free state is practically colorless, but the soluble metallic salts of which have in solution a magnificent crimson-red color. By means of phenolphthalein and caustic alkali we can titrate very feeble acids, and either in aqueous or alcoholic solution, as may be preferred. With phenolphthalein, acetic, benzoic, citric, tartaric and other organic acids can be titrated far more accurately and sharply than with litmus, and it is equally available for stearic, oleic, and other insoluble fatty acids. In these latter cases, however, the operation should be conducted in alcoholic solution; not merely because the acids are insoluble in water, but because water effects more or less decomposition of their salts (soaps). Thus on titrating an alcoholic solution of oleic acid with caustic soda and the end-reaction is perfectly sharp, but on adding water a marked pink color is developed, indicating that a certain amount of decomposition has taken place, probably owing to the partial hydrolysis of the soap with formation of an acid oleate and free caustic alkali.

Phenolphthalein is also available for the titration of many feeble mineral acids, including hydrocyanic, carbonic and arsenious acids, and even sulphuretted hydrogen.

An interesting demonstration that phenolphthalein is affected by carbonic acid is obtained by adding phenolphthalein to water rendered faintly alkaline by caustic soda. On then blowing through the liquid it becomes decolorised by the carbonic acid of the breath.

But the very fact that carbonic acid reacts on the indicator shows that the standard alkali used for a titration must be caustic and free from carbonate. This is very difficult to ensure in the case of caustic potash and soda, and ammonia cannot be employed with phenolphthalein. By far the best standard alkaline solution for use with phenolphthalein is docinormal baryta water, which must necessarily be free from carbonic acid.

It may be set by any ordinary acid, but the compound to which I give the preference is the quadroxalate of potassium, a salt of the composition KHC_2O_4, $H_2C_2O_4 + 2$ aqua. It is prepared by making a saturated solution of recrystallized oxalic acid in water and filtering the liquid. One-fourth of the filtrate is then heated to boiling and neutralized with pure potassium bicarbonate, employing litmus paper as the indicator of neutrality. This neutralized portion is then added to the main quantity, whereupon there is copious deposition of the quadroxalate in the form of granular crystals. This is filtered off, washed with a little cold water, and dried over sulphuric acid. It is perfectly permanent in the air, and in that respect presents a great advantage over oxalic acid. In using the quadroxalate for setting the standard baryta solution, about 0·25 gram is exactly weighed and dissolved in a little warm water. Phenolphthalein (1-500 solution in proof spirit) is then added, and the baryta water run in until the pink color becomes permanent. During the first part of the titration the solution remains quite clear, but subsequently a white precipitate of barium oxalate is produced, and this forms an extremely delicate background for viewing the end of the reaction. In fact, it is distinctly advantageous to aim at the presence of a finely divided white precipitate in the liquid, rather than to employ a white background to the vessel. Potassium bitartrate may be substituted for the acid oxalate, but it is difficult to obtain it perfectly pure.

In many cases phenolphthalein can be advantageously employed with an ethereal solution of the acid to be determined. Thus, suppose it be desired to determine the benzoic sample of paregoric suspected not to be of B. P. quality, 20 c.c. may be taken, rendered slightly alkaline to litmus, the spirit evaporated off, and the camphor and oil of anise extracted by agitation with ether. On adding hydrochloric acid to the separated aqueous liquid benzoic acid will be precipitated and on agitation with ether will be extracted. The ethereal solution is separated, washed with small quantities of water until the washings no longer appreciably redden litmus, and placed in small cylinder together with about 5 c.c. of water to which a drop of phenolphthalein solution has been added. On now dropping in N_{20} or N_{50} caustic soda or baryta, and agitating well between each addition, the estimation of the benzoic acid can be readily and accurately effected. The meconic acid of the opium is dissolved more or less completely by the ether used for extracting the benzoic acid, but the proportion present is too small to interfere with the determination of the latter.

The foregoing method of titrating benzoic acid also finds an application in the process of assaying aconite alkaloids suggested by me at the British Pharmaceutical Conference in August. By its means the proportion of saponifiable alkaloids in as little as half a grain of material can be ascertained with a considerable approach to accuracy. This is an important improvement in practice on the method based on the same principle originally proposed by Dr. Alder Wright, whose experiments were made prior to the utilization of phenolphthalein as an indicator, and on such large quantities of material as to render the process quite prohibitive in actual practice.

But although phenolphthalein reacts perfectly with such weak acids as carbonic and hydrocyanic there are such bodies of an acid character which have little or no action on it. This is the case with phenol and other bodies of that class, such as morphine, the molecule of which contains a hydroxyl group having a phenolic function, which enables it to form compounds with the alkalies and lime water. I lay some stress on the behavior of morphine with phenolphthalein, because at the British Pharmaceutical Conference at Cardiff it was stated by Mr. F. W. Short that morphine reacted as an acid to phenolphthalein. The statement made by Mr. Short was novel to me, and I therefore wrote to that gentlemen asking the source of his information, and in the course of a courteous reply he wrote: "I cannot now remember where I saw the statement that morphine acts as an acid to phenolphthalein, but it was to the effect that it might be made use of quantitatively, as the red color only appeared when one molecular weight of NaHO had been added for each molecular weight of morphine," or in other words, for the reaction $C_{17}H_{19}NO_2{\cdot}OH + NaOH = C_{14}H_{19}NO_4{\cdot}ONa + H_2O$.

In consequence of Mr. Short's statement, I have since submitted the behavior of morphine with phenolphthalein to direct experiment. The end-reaction is not a sharp one, and appears to be modified by the presence of alcohol and other conditions. but in all cases I found the acidity of morphine to phenolphthalein extremely trifling, and the caustic alkali required for the production of a pink color was only a small portion of that which would be required for the above reaction. This is also Mr. D. B. Dott's experience, who adds that "the same holds true substantially of phenol, as the alkaline reaction is given long before anything like an equivalent of soda has been added. This is noted by Mr. Thomson in his well-known table."

P. C. Plugge also states that in titrating morphine hydrochloride with caustic alkali and phenolphthalein a red coloration makes its appearance before the end of the reaction (that is the neutralization of the HCl), but states that a little experience enables the difficulty to be overcome.

It is evident, therefore, that morphine has a faint acid tendency, but the statement that it reacts quantitatively as an acid to phenolphthalein was a mistake, and I think there is little doubt that Mr. Short was confusing the behaviour of morphine to phenolphthalein with that to Poirrier's soluble blue C4B. This coloring matter, not now obtainable, was found by M. R. Engal in 1886, to be capable of being used as an indicator for the very weakest acids.

The concentrated solutions of the compounds KBO_2, K_3PO_4, K_3AsO_4, K_2PHO_3, K_2PHO_2, and K_2CO_3 are stated to have been found approximately neutral to this indicator. About 85 per cent. of the hydrogen of H_3PO_4 and H_3ASO_4 was indicated, so that the coloring matter could not be used for the actual titration of these acids. It is only to be expected that the salts of very feeble acids should readily suffer hydrolysis; especially the salts in which the last atom of hydrogen is replaced.

Morphine, phenol, resorcin and chloral all reacted as acids to Poirrier's blue, the last three being capable of accurate titration by means of it. Phenol and chloral act as monobasic, and resorcin as a dibasic acid. Morphine did not give such good results, a quantity of caustic alkali being required somewhat in excess (24 c.c against 20) of that corresponding to the double phenol function. The meaning of this is apparently that the Engel found at least 2NaHO to be required for $C_{17}H_{19}NO_3$. This result is interesting, but requires confirmation as do other of Engel's observations. Engel found Poirrier's blue to be neutral to the hydroxyl group existing in monovalent alcohols (some of these were of tertiary constitution, like trimethyl carbinol and pinacone); but in strong solution polyvalent alcohols, such as glycerol, erythrol and mannito showed an acid tendency, though they were not capable of being accurately titrated. Hydrocyanic acid could be determined by titration with Poirrier's blue, and glycoine, alanine and taurine also behaved as acids, but the end reaction was indistinct.

*Abstracted from a paper read before the Chemists Assistants' Association.

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DYE MARKET.

Note—*Our prices are for large lots except when otherwise specified, and buyers of small quantities must expect to pay an advance on these figures.*

Complete prices current will be found on page 44

SATURDAY EVENING, March 26, 1892.

Manufacturers and dealers report an improved demand for dyes and dyestuffs generally, but the market still has a quiet appearance. The outlook, however, is considered to be more encouraging and it is now expected that a good business will be done during the coming months. Prices generally rests on a steady basis and very few changes have occurred during the week. Gambier and cutch are firmer and a shade higher, but we learn of no further quotable change of interest, except in divi divi, which has declined as a result of increased supplies.

Aniline Colors.—The demand shows a moderate degree of improvement, but business is still confined almost exclusively to supply the current wants of consumption. For the oil and salt there is a fair demand at steady prices. We quote the former at 18½@20c and the latter at 15½@18c as to quantity, quality and seller.

Alizarine.—There is no change in the position of this article. There is a moderate demand, and prices are maintained at 16@19c, according to quality and size of order.

Albumen.—The demand has improved somewhat, but as yet only small lots are wanted. Both egg and blood are held at steady and unchanged prices.

Bichromate of Potash.—There is not much doing in this article, buyers confining their purchases strictly to the small lots needed for present consumption. There has been no change in quotations, which are 9½@10c, as to quantity.

Cutch.—The market remains firm, as spot supplies have been closely absorbed. There has been no improvement in the demand but a good jobbing business is in progress. We hear of sales of 200 bales on the spot at 6¼@6½c. Forward shipments are held at rather better figures, nothing being offered now at less than 5¼@5½c.

Dyewoods.—The inquiry for logwood continues to improve, but business is somewhat restricted, as holders are not disposed to accept the figures offered by consumers. Where stock is needed for immediate use holders appear to experience no difficulty in obtaining full prices. For the extracts the demand is increasing but business is still confined within rather narrow jobbing limits.

Gambier.—The spot market is much firmer. The spot stock has been concentrated in the hands of one holder by the purchase of 375 tons, for which he paid 4¾c. cash. The inside price is now 4½c. and from this up to 4¾c. is asked according to the quantity wanted. There have been no reported sales of lots to arrive here but we heard that 150 tons have been sold to go to Boston on private terms.

Divi divi.—Recent arrivals have further depressed market values and we hear of sales of 200 tons at $70.

Indigo.—The market remains quiet, the only business we hear of being of a jobbing character. Prices are without change, the feeling being steady.

Madder.—Limited supplies and an increasing demand keep the market very firm, but we have no quotable change to report.

Nutgalls.—There is considerable inquiry but buyers are not prepared to pay the prices demanded, and business drags. Alleppo are held at 17½@18c and China at 14½@15c for prime.

Prussiate of Potash.—Dealers report only a moderate jobbing demand, but the tone of the market is steady and prices are unchanged at our quotations.

Starch.—There is quite an active demand for the various grades, both home and export buyers taking considerable quantities. Corn is rather easy, but wheat and potato are steadily held. We quote corn starch at 2½@2⅝c as to quantity, potato at 3¾@4c, and wheat at 5¼@5⅝c as to quantity.

Sumac.—There is a very fair jobbing demand, but we hear of no business in a large way. Sicily is held at $62@62 50 to arrive, and $65@67 50 on the spot as to quantity, while Virginia is quoted at a range of $42 50@47 50 as to quantity and position.

Turmeric.—There is a small jobbing demand which is supplied at former prices. The arrivals have been quite large, but have not materially affected the market.

Tin Crystals.—A moderate jobbing demand is reported at the former range of quotations which is 13@15c, as to quantity and style of package.

Boston Dye Market.

[Special to the REPORTER.]

Gambier.—The demand for gambier has improved decidedly, and there has been a very fair trade during the greater part of last week. Rather more than 450 tons have been sold here within the past week for summer arrival, and at a little less than 4¼c. The markets abroad are cabled easier. Quotations here are, Ex store, Boston, 4¼@4¾c, to arrive, $4 35. Cubes continue vepy dull at unchanged prices. The bark Western Belle arrived last Tuesday from Singapore with 2,520 bales.

Cutch.—The market for cutch exhibits more firmness. Recent sales of considerable moment have had the tendency of relieving the market somewhat, and 6¼c. is now the price asked ex store. Shipments now waiting to be moved are quoted up to 6c. The ruling quotations on this market at the time of the present writing are: S. M. and H. T. 6¼@6¾c.; Star B, 7¼c.; afloat 5@5¾c.

Sumac.—The demand for Sicily must be recorded as light for such it really is, with buyers not inclined to interest themselves in the market at the present time. Spot is quoted at $64@$66, with to arrive at $63@64. Virginia is ruling very quiet with the market quoted at $40@$42.

Madder.—Madder continues in a strong position, with no signs whatever towards weakness. There is a very good demand and holders are inclined to hold the market well up to its present position. High grade, 15c; inferior, 12c.

Indigo.—The market is very dull indeed, and no improvement can be noted on any grades. Prices are not materially changed, and with no Kurpah in stock here quotations are nominal: Bengals, fine, $1 20@1 25; medium, $1@1 15; fair medium, 85@95c; ordinary, 75@85c; Madras, 38@55c; Kurpah, fine, 85@90c; ordinary, 70@80c; Guatemala, fine, 75c; ordinary, 65c; low grade, 60c.

Woods.—Logwood, notwithstanding the arrival of 1,100 tons last week, still continues scarce. There was one small arrival within the seven days ending at the time of this writing, but this was not large enough to make any very marked impression toward replenishing the depleted stocks. Logwood is quoted as follows: From the north side of Hayti, $34; from the south side of Hayti, $24; Laguna, $34@35; Jamaica, $28@29. Fustic is a scarce article, with no good stock on this market, and with such defective wood as there is selling at the rotund figure, $21@22. Sapanwood is quiet at $45.

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